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Some Comments Upon the Curriculum of the Department of Nervous and Mental Diseases of the Northwestern University Medical School by the Alumni of the Preceding Ten Years*

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In an effort to determine the usefulness of the course offered in neurology and psychiatry, a questionnaire was sent to the graduates of the ten years preceding 1938. From an analysis of the replies it was hoped that courses better suited for the acquisition of knowledge necessary for the general physician could be devised. The contents of the courses and methods of presentation for this period of ten years remained much the same, the variations affecting only the details.

Psychiatry is introduced in the first year by a course in medical psychobiology. At the same time, the basis for clinical neurology is being established by preclinical neuro-anatomy. In the second year, the student is brought into contact with clinical methods and material—on the part of psychiatry with a didactic course, and of neurology with a course in neurologic diagnosis consisting of lectures followed by demonstrations of methods of examination. During this year function is being taught by the department of physiology and a course is given in neuropathology. In the third year, a recitation course, amplified by demonstrations and discussion in small groups, and practical training in the neurological clinic constitute the teaching in neurology. A lecture course is correlated with the practical training in the clinic in psychiatry. In the fourth year, clinical teaching is emphasized by clinical lectures in neurology and psychiatry, neurological clinics at the various hospitals, and bedside work for small groups at the Psychopathic Hospital.

REQUIRED COURSES

FIRST YEAR

11. *Psychiatry*: Recitation course. One hour a week for one quarter. One-half the class each quarter. Winter and spring quarters.

SECOND YEAR

12. *Psychiatry*: Recitation course. One hour a week for two quarters. Autumn and winter quarters.

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13. *Neurodiagnosis*: Recitation course. Two hours a week for one quarter. One-half of the class each quarter. Winter and spring quarters.

14. *Neuropathology*: Recitation course. One hour a week. Spring quarter.

THIRD YEAR

101. *Neurology*: Recitation course. One hour a week throughout the year. Four sections.

103. *Psychiatry*: Lecture course. One hour a week. Autumn and winter quarters.

104. *Dispensary Clinic*: One hour a week for three and two-thirds weeks.

FOURTH YEAR

105. *Clinical Lecture*: One hour a week throughout the year.

106. *Psychiatry*: One lecture a week for one quarter. One-third of the class each quarter. Psychopathic Hospital.

107. *Ward Walk and Demonstrations*: Psychopathic Hospital. One and one-half hours a week for one quarter. One-third of the class each semester.

108. *Clinic*: Cook County Hospital. One hour a week for one quarter.

109. *Clinic*: One period a week for one-half a quarter. Evanston Hospital.

113. *Dispensary Clinic*: Six two-hour periods a week for three and two-thirds weeks.

Although this analysis appears under my name, the entire faculty of the department contributed to its fruition.

It was thought that this analysis, although dealing more specifically with our problems, might be useful to other teachers and for this reason it is here presented.

Eleven hundred questionnaires were sent to the alumni graduating from 1928 to 1938 inclusive. There were 499 replies.

To determine the amount of emphasis which should be placed in the curriculum on different disease states, an attempt was made to determine the type of neuropsychiatric cases seen by these alumni.

When the diseases are listed in their diminishing order, as seen by all the alumni, in the upper half will be found: first, neuroses, then organic diseases of the brain, senile and arteriosclerotic dementia, migraine, epilespsy, mental changes associated with physical disease, alcoholic psychoses, dementia praecox and diseases of peripheral nerves. In the lower half follow melancholia, general paresis, feeblemindedness, and diseases of the spinal cord, drug addiction and manic depressive psychosis, psychoses due to trauma of the head, paranoid state, criminal delinquents and epileptic psychoses. This emphasizes, again, the need of stressing the teaching of the neuroses. Likewise, it indicates, somewhat, the emphasis to be placed on various diseases. However, the figures cannot be accepted at their face value. For example, the indication of the relatively few cases of manic depressive psychoses strongly suggests that the significance of minor attacks of depression and excitement is unrecognized.

In response to the query, "How valuable is a knowledge of psychiatry in your type of practice?" there were 480 responsive replies. Of these, 200, or 41.6 per cent, stated it was very valuable; 239, or 49.8 per cent, said it was moderately valuable and 41, or about 8.5 per cent, stated it was of little or no value.

Of these 41, there were 17, or 6.4 per cent, of the general practitioners; 4, or 11.7 percent, of the internists; 3, or 21.5 per cent, of the pediatricians; 3, or 17.6 per cent, of the specialists in eye, ear, nose, and throat; 2, or 16.6 per cent of the obstetricians and gynecologists; 2, or 7.4 per cent, of the general surgeons; 2, or all the pathologists; 1, or 14.2 per cent, urologists, 1, or 11.1 per cent, orthopedists; 1, or 50 per cent, radiologists; 1 or all of public health, and 4 interns.

Recalling their undergraduate instruction in psychiatry, 64.7 per cent of 460 of the alumni who made responsive replies found that diagnosis of psychiatric conditions was most useful in their practice; 13.7 per cent had gained general knowledge; 12.3 per cent had learned methods of examination; 9.6 per cent had learned treatment; 6 per cent had learned prognosis; 3.2 per cent, etiology, and 8.4 per cent remembered little or nothing.

Contrasting this with an answer to the query of what was omitted from the instruction they had received which would have enabled them more effectively to manage their psychiatric cases, of 446 who made responsive replies, 48.8 per cent stated that treatment should have been presented to a greater degree; 18.3 per cent specified treatment of the neuroses; 20.8 per cent said there had been insufficient clinical and practical instruction; 11.2 per cent said the neuroses were inadequately or insufficiently presented; 9.4 per cent advised more instruction in etiology; 13.0 per cent stated there were no omissions in the course.

This clearly indicates the necessity of teaching more treatment, general and of the neuroses, of presenting neuroses more extensively, of stressing etiology and, particularly, of obtaining greater facilities for clinical instruction, especially permitting students to examine and study patients.

In teaching some special branch of medicine to undergraduate medical students there is a grave danger that the teachers over-emphasize certain parts which interest them and which are essential to the knowledge of a specialist but which might not be found as useful to the young graduate as would other information. It is obvious that adequate psychiatric training cannot be completed in an undergraduate school. Therefore, it becomes necessary to select certain parts which can be taught, leaving the remainder for graduate and postgraduate study. If it would be certain that the majority of the students would continue their studies in psychiatry after graduation, the selection of the subjects which should be presented would be a relatively simple matter. This, however, is not the case.

It was thought that if the alumni expressed their opinion as to which of five general divisions of teaching psychiatry was of greater importance, greater practical value, to them, that some assistance would be given in the selection of subjects to be taught. These general divisions were: Exposition of theoretical dynamic psychology; familiarity with theories of psychogenesis such as those of Freud, Adler, Jung, Meyer, etc.; clinical description of various disease entities; recognition of and differential diagnosis of various disease entities and prognosis and management of disease entities. The alumni were asked to check against

each of these an indication of whether they were very valuable, moderately valuable, or of little or no value.

Admittedly, what one has learned may be predicated on some disciplines of which the student is unconscious and what the recent graduate may have learned which he finds useful may have been based on the learning of certain factual data, of the usefulness of which he may be unconscious. However, after a number of years, the physician who has continued to study medicine to meet the requirements of his practice will probably select such parts of psychiatry as he finds useful, and since, as a general rule, such physicians will be found to be of more than average intelligence, some weight should be given to their opinion.

Of 372 responsive replies, 17.2 per cent of the alumni thought the exposition of theoretical dynamic psychology to be very valuable; 29 per cent, to be moderately valuable and 53.7 per cent, to be of little value.

Of 384 responsive replies, 8 per cent of the alumni thought that familiarity with the theories of psychogenesis, such as those of Freud, etc., was very valuable; 32.2 per cent moderately valuable, and 59.6 per cent of little value.

Of 458 responsive replies, 66.3 per cent of the alumni considered the teaching of clinical description of various disease entities to be very valuable; 27.2 per cent, moderately valuable and 6.1 per cent of little value.

Of 473 responsive replies, 76.5 per cent thought that the teaching of the recognition and differential diagnosis of various disease entities was very valuable; 19 per cent moderately valuable and 4.6 per cent of little value.

Of 457 responsive replies, 57.6 per cent of the alumni thought prognosis and management of various disease entities to be very valuable; 29.6 per cent moderately valuable and 12.6 per cent of little value.

To recapitulate: 76.5 per cent of the alumni thought the teaching of the recognition and differential diagnosis of various disease entities to be very valuable; 66.3 per cent thought clinical descriptions of various disease entities to be very valuable; 57.6 per cent thought prognosis and management very valuable; 17.2 per cent thought the exposition of theoretic and dynamic psychology to be very valuable and 8 per cent thought familiarity with various theories of psychogenesis very valuable. It is significant in relation to the last two subjects that more than 100 out of 499 alumni fail to make a responsive reply. It is possible that they were unable to judge because of unfamiliarity with the subjects; perhaps, they were insufficiently taught on the subjects, had forgotten them or never subsequently learned or relearned them. There is fairly good agreement among the alumni of the relative merit of the last of these divisions and this must be considered seriously.

As was expected, of 471 responsive replies, 48.6 per cent of the alumni thought that great emphasis should be placed on the teaching of mental derangements occurring with physical diseases or those due to drugs or head trauma,

such as coma, stupor, delirium, confusion, etc.; 46 per cent thought moderate emphasis should be placed on this group and 4.4 per cent favored little or no emphasis.

Question number 9 unfortunately was worded so that it was misinterpreted by some. It was desired to obtain information as to the relative importance of knowledge of etiology, pathology, pathogenesis, signs and symptoms, differential diagnosis, treatment, etc., in the management of the major psychoses, such as dementia praecox, etc. The question read—"in your particular type of practice what knowledge of the major psychoses do you consider necessary (i.e., such psychoses as dementia praecox, manic depressive, paranoid states, general paresis, alcoholic psychoses, arteriosclerotic and senile psychoses, etc.)?" A number of the alumni interpreted this to mean what was the relative proportion of these psychoses in their practice. Since this has already been analyzed the data will be ignored.

There were 379 replies from alumni interpreting the question in its intended sense. Of these, there were 327 responsive relevant replies. Of these 260 (79.4 per cent) felt diagnosis most important; 105 (32.1 per cent) treatment; 84 (22.7 per cent) prognosis; 81 (24.4 per cent) general knowledge; 18 (5.5 per cent) etiology; 5 (1.3 per cent) prophylaxis and 1 (0.27 per cent) each pathology and prophylaxis.

In response to the question—"In neurology what should you have been taught that was omitted and what should have been omitted that you were taught?" there were 386 relevant and responsive replies. (Table 12) As to the content of the course, 103 (26.5 per cent) of these stated there were no omissions in the course; 97 (25 per cent) suggested more clinical instruction including diagnosis; 44 advised greater emphasis on treatment; 16, more stress on applied anatomy; 14, more stress on peripheral nerve lesions; 13, more work on traumatic neurology; 8, more stress on prognosis; 7, more stress on fundus examination; 5, more applied physiology; 4, each, more work on brain lesions and on interpretation of signs; 3, more stress on the vegetative nervous system; 1 each, toxic diseases, degenerative diseases and x-ray.

In general, the requests are largely for diagnosis, symptomatology and treatment. The following suggestions are pertinent. Fifty-eight stated that of the diseases taught emphasis should be put on the common disorders; 22 felt that pathology was inadequately taught. Some of these also felt that too much time was consumed by minute histopathology. As to the manner of teaching, 30 stressed the need of facilities for students to make neurologic examinations of patients, and 14 additional responses asked for more contact with patients; 11 replies dealt with a better organization of the course, emphasizing lack of correlation between didactic and clinical work; 7 asked that the teaching be kept to the level of the student and 2 suggested a more tolerant type of instruction.

Thirty-three felt that there was too much detail, including microscopic anatomy; 18, that there was too much theory; 2, that there was too much didactic work, and 3, that there was too much time spent in neurology; 3 asked that

the length of the course be increased; 2 asked that the dispensary be supervised better.

Of these criticisms note should be taken of the suggestions dealing with additional facilities for students to examine patients and for the correlation of didactic and clinical work; then the amount of theoretical material should be scrutinized and diminished if necessary; the course in pathology should be revised and the need for tolerance and restraint from presenting too advanced material should be kept in mind.

It was thought that the question of "What suggestions do you have for the teaching of neurology to undergraduates?" would bring about material additional to the question relating to the aims of commission and omission. In general, the replies were repetitious. They may, however, be restated. There were 421 responsive replies. Seventy-one stated they had no suggestions; 180 advised more clinical instruction including diagnosis, and in addition 48 stressed the need for opportunities for the student to make neurologic examination; 24 more noted more contact with patients, as in ward walks, making a total of 252 who felt that there should be more actual clinical teaching; 55 advised greater emphasis on common disorders; 46 felt more of practical anatomy was indicated; 22 advised more teaching of treatment; 21 urged a better organization of courses including the suggestion that the student be oriented as to the courses to come; 12 advised more applied physiology; 12 suggested less microscopic detail in anatomy and pathology; 12 urged more tolerant and better instructors; 11 advised smaller classes. It is interesting that 10 urged that the importance of neurology in general medicine should be made known to the student. Then follow a few suggestions for teaching at the level of the student, stimulating interest, good courses in pathology, more prognosis, more vegetative neurology, have more courses, less theory, more examinations, more dispensary work with better supervision, less pathology and more movies.

The last question was headed "Remarks." It was hoped that we would obtain some material available neither under omissions or commissions or suggestions. Some of the replies, however, were repetitions. However, those who replied to this question seemed to have given the matter more than ordinary consideration. It is useful to analyze the replies. Here there was an opportunity to discuss the department and its faculty. In some instances both were thoroughly and at time not too kindly treated, often by men frankly confessing to having a wish to "get something off their chest" because of some wrong, real or fancied, suffered at the hands of an instructor. Since no signatures were requested, it permitted greater latitude, but often the graduate was courageous enough to sign his name.

There were only 202 replies. Seven thought the course in neuropsychiatry too long or complex; 15 thought it too short or inadequate; 16 made a plea for more tolerant and better instructors. Other specific recommendations were few and repetitious. Fifteen stated that the idea of a questionnaire was good and 10 suggested that it be made by other departments.

Eighty-five volunteered that the course in neurology was good; 2 stated it was not. Eighty-two said the course in psychiatry was good; 2 said it was not. Purposely any direct question as to this had been omitted from the questionnaire. Therefore, these spontaneous expressions have a good deal of value. (Table 16)

When all of the comments were analyzed, of the 499 returned questionnaires, there were 415 containing constructive criticism or pertinent comments. In these, there were 53 containing some adverse comments on neurology and 62 on psychiatry. There were 263 laudatory comments on neurology and 253 on psychiatry. Sixty-seven of the replies contained extensive discussions. In these replies there were 45 suggestions for more instruction in management of ambulatory, extra-institutional and office patients, with functional disorders, including neuroses (and probably mild depressions and mild forms of other psychoses). More contact with clinical material to be handled by the student was requested by 28; more emphasis on treatment by 22; more clinical demonstration by 16; more emphasis on common disorders by 13; more knowledge of arteriosclerotic and senile psychoses in connection with medicine and surgery of the aged, and more emphasis on legal procedures, commitment, state institutions, voluntary commitments when is a patient commitable, etc.

TABLE 1.—ANALYSIS OF NUMBER OF REPLIES BY EACH SPECIALTY EACH YEAR

Type of Practice	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	Total
General Practice	5	21	18	35	24	38	33	40	23	25	7	....	269
Internal Medicine	1	2	5	5	2	7	3	5	1	2	1	....	34
General Surgery	1	4	6	3	5	1	2	3	....	2	1	....	28
Eye, Ear, Nose, Throat	....	1	3	4	4	2	1	2	....	....	1	....	18
Neuropsychiatry	2	....	....	2	....	4	3	3	1	....	....	....	15
Obstetrics and Gynecology	1	....	2	4	1	....	2	....	1	....	1	....	12
Pediatrics	....	1	....	1	....	3	....	3	2	....	....	....	10
Orthopedics	....	....	1	2	1	1	2	1	1	....	....	....	9
Urology	....	1	....	2	....	....	2	2	1	....	....	....	8
Government Service (General)	1	2	1	....	....	....	....	1	1	....	....	1	7
Anesthesia	....	....	1	....	....	....	....	2	....	....	....	....	3
Bacteriology	....	....	....	1	....	1	....	1	....	....	....	....	3
Dermatology and Syphilis	....	1	....	....	....	1	....	....	....	....	....	....	2
Pathology	....	1	....	....	....	....	....	....	....	1	....	....	2
Physiology	....	....	1	....	1	....	....	....	....	....	....	....	2
X-Ray	....	....	....	1	1	....	....	....	....	....	....	....	2
Proctology	....	....	....	1	....	....	....	1	....	....	....	....	2
Physical Therapy	....	....	....	....	....	....	....	....	....	1	1	....	2
Government Service (X-ray and Pathology)	....	....	1	....	....	....	....	....	....	....	....	....	1
Public Health	....	....	....	....	1	....	....	....	....	....	....	....	1
Student Health Service	....	....	....	....	....	1	....	....	....	....	....	....	1
Specialty (Unclassified)	....	....	....	....	....	....	....	....	1	....	....	....	1
Tuberculosis Institute	....	....	....	....	....	....	....	1	....	....	....	....	1
Teaching (Histology and Neurology	....	....	....	....	....	....	....	1	....	....	....	....	1
Not Practicing	....	....	....	....	1	....	....	....	....	....	....	....	1
Residents and Interns	....	....	....	....	....	....	....	....	12	25	22	5	64
TOTAL	11	34	39	61	41	59	48	66	44	56	34	6	499

TABLE 2.—ANALYSIS OF FREQUENCY OF NEUROPSYCHIATRIC CASES SEEN PER YEAR IN VARIOUS SPECIALTIES

Type of Practice	Number of Replies	Number in which Estimate was Given	Number of Cases Seen Per Year					
			0	1 to 10	10 to 25	25 to 50	50 to 100	Over 100
General Practice	269	265	2	57	83	53	48	22
Internal Medicine	34	32	....	4	8	3	9	8
General Surgery	28	28	2	4	9	4	3	6
Eye, Ear, Nose, Throat	18	18	....	7	4	1	3	3
Neuropsychiatry	15	15	....	....	1	1	1	12
Obstetrics and Gynecology	12	12	1	8	2	1	....	....
Pediatrics	10	10	....	5	2	1	1	1
Orthopedics	9	9	1	3	3	1	1	....
Urology	8	8	1	1	3	1	1	1
Government Service (General)	7	7	....	2	1	....	2	2
Anesthesia	3	2	1	....	1	....	....	....
Bacteriology	3	1	....	....	....	....	....	1
Dermatology and Syphilis	2	2	....	2	....	....	....	....
Pathology	2	2	1	1	....	....	....	....
Physiology	2	2	2	....	....	....	....	....
X-Ray	2	2	....	1	....	1	....	....
Proctology	2	2	....	1	1	....	....	....
Physical Therapy	2	2	....	....	2	....	....	....
Government Service (X-ray and Pathology)	1	1	....	....	....	....	....	1
Public Health	1	1	....	1	....	....	....	....
Student Health Service	1	1	....	....	1	....	....	....
Specialty (Unclassified)	1	1	....	....	....	....	1	....
Tuberculosis Institute	1	1	....	1	....	....	....	....
Teaching (Histology and Neurology)	1	1	....	1	....	....	....	....
Not Practicing	1	0	....	....	....	....	....	....
Residents and Interns	64	51	1	3	7	7	12	21
TOTAL	499	476	12	102	128	74	82	78

TABLE 3.—FREQUENCY OF VARIOUS NEUROPSYCHIATRIC CASES AS ESTIMATED BY A TOTAL OF 490 REPLIES—ALL TYPES OF PRACTICE INCLUDED

Type of Case	None	Rare	Occasional	Frequent
Neuroses	43	44	142	261
Organic diseases of the brain, hemorrhage, embolism, thrombus, tumors, abscess, inflammation, injury, etc.	64	93	185	148
Senile and Arteriosclerotic Psychoses	89	133	182	86
Migraine	93	152	162	83
Mental Changes with physical disease or drugs, such as coma, delirium, stupor, confusion	189	138	112	51
Alcoholic Psychoses	147	184	118	41
Epilepsy	126	162	162	40
Dementia Praecox	165	181	109	35
Diseases of the Peripheral Nerves	163	192	105	30
Feeblemindedness	220	175	70	25
General Paresis	212	180	74	24
Criminals and Delinquents	333	102	34	21
Diseases of the Spinal Cord	203	191	77	19
Involutional Melancholia	192	171	111	16
Drug Addiction	241	165	68	16
Psychoses with Head Trauma	262	154	61	13
Manic-Depressive Psychosis	189	217	72	12
Epileptic Psychoses	282	153	46	9
Paranoid States	283	150	52	5

TABLE 4.—PERCENTAGE FREQUENCY OF VARIOUS NEUROPSYCHIATRIC CASES AS ESTIMATED BY 490 REPLIES DIVIDED INTO TWO GROUPS (1) NONE PLUS RARE (2) OCCASIONAL PLUS FREQUENT

Type of Case	Number of None Plus Rare	Percentage of None Plus Rare	Number of Occasional Plus Frequent	Percentage of Occasional Plus Frequent
Neuroses	87	17.7	403	82.3
Organic Disease of Brain — Hemorrhage, Embolism, Thrombus, Tumors, Abscess, Inflammation, Injury, Etc.	157	32.0	333	68.0
Senile and Arteriosclerotic Psychoses	222	45.3	268	54.7
Migrane	245	50.0	245	50.0
Epilepsy	288	58.8	202	41.2
Mental Changes with Physical Disease or Drugs, such as Coma, delirium, stupor, confusion	327	66.7	163	33.3
Alcoholic Psychoses	331	67.5	159	32.5
Dementia Praecox	346	70.6	144	29.4
Diseases of the Peripheral Nerves	355	72.7	135	27.3
Involutional Melancholia	363	74.1	127	25.9
General Paresis	392	80.0	98	20.0
Diseases of the Spinal Cord	394	80.6	96	19.4
Feeblemindedness	395	80.6	94	19.4
Manic-Depressive Psychosis	406	82.8	84	17.2
Drug Addiction	406	82.8	84	17.2
Psychoses with Head Trauma	416	84.9	74	15.1
Paranoid States	433	88.4	57	11.6
Epileptic Psychoses	435	88.9	55	11.1
Criminals and Delinquents	435	88.9	55	11.1

TABLE 5.—FREQUENCY TABLE FOR VARIOUS NEUROPSYCHIATRIC CASES CONSTRUCTED FOR NUMBER OF OCCASIONAL PLUS FREQUENT REPLIES
(The Numbers Represent the Frequency in the Particular Group Specified)

Type of Case	Total Replies	General Practice	Internal Medicine	Neuro-Psychiatry	General Surgery
Neuroses	1	1	1	1	1
Organic Disease of Brain, Hemorrhage, Embolism, Thrombus, Tumors, Abscess, Inflammation, Injury, etc.	2	2	2	9	2
Senile and Arteriosclerotic Psychoses	3	3	4	3	5
Migraine	4	4	2	15	3
Epilepsy	5	5	5	6	10
Mental Changes with Physical Disease or Drugs, such as Coma, delirium, stupor, confusion	6	6	5	11	7
Alcoholic Psychoses	7	7	9	7	5
Dementia Praecox	8	8	11	1	7
Involutional Melancholia	10	9	7	10	12
Diseases of the Peripheral Nerves	9	10	12	15	4
Feeblemindedness	12	11	15	18	16
Drug Addiction	14	12	15	15	16
Diseases of the Spinal Cord	12	13	12	13	12
Manic-Depressive Psychosis	14	14	7	3	16
General Paresis	11	15	9	7	10
Criminals and Delinquents	18	16	19	11	19
Psychoses with Head Trauma	16	17	17	19	9
Epileptic Psychoses	18	18	18	13	15
Paranoid States	17	19	14	5	14

TABLE 6.—ANALYSIS BY SPECIALTIES OF THE UNDERGRADUATE INSTRUCTION IN PSYCHIATRY WHICH PROVED TO BE OF VALUE IN EACH TYPE OF PRACTICE

Type of Practice	Total Replies Considered	Diagnosis	General Knowledge	Method of Examination	Treatment (Total)	Treatment (General)	Prognosis	Etiology	Treatment (Neuroses)	Personality Types	Psychoanalysis	Child Psychiatry	Pathology	Mental Factors in Physical Dis.	Incidence	Little or Nothing	Irrelevant	No Reply
General Practice	269	84	32	32	27	26	13	11	2	3	1	....	1	1	1	11	10	15
Internal Medicine	34	22	5	2	2	2	2	2	....	....	....	....	....	....	....	6	....	1
General Surgery	28	18	4	....	2	1	2	....	1	....	....	....	....	....	....	1	3	1
Eye, Ear, Nose, Throat	18	7	2	1	....	....	1	....	....	1	....	....	....	....	....	3	1	4
Neuropsychiatry	15	9	2	2	....	....	....	....	....	....	....	....	....	....	....	2	2	—
Obstetrics and Gynecology	12	5	....	....	1	1	....	1	....	....	....	....	....	....	....	1	1	1
Pediatrics	10	3	1	....	1	....	....	....	....	....	....	1	....	....	....	1	2	2
Orthopedics	9	3	2	2	2	1	....	....	1	....	1	1	....	....	....	1	....	—
Urology	8	4	....	1	1	1	....	....	....	....	....	....	....	....	....	....	2	1
Government Service (General)	7	4	....	2	2	2	1	....	....	....	....	....	....	....	....	1	....	—
Anesthesia	3	1	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Bacteriology	3	1	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Dermatology and Syphilis	2	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Pathology	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	....
Physiology	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1
X-Ray	2	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	—
Proctology	2	....	1	....	....	....	....	....	....	1	....	....	....	....	....	....	....	—
Physical Therapy	2	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	—
Government Service (X-Ray and Pathology)	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	—
Public Health	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	—
Student Health Service	1	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	—
Specialty (Unclassified)	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	—
Tuberculosis Institute	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	—
Teaching (Histology and Neurology)	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	—
Not Practicing	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Residents and Interns	64	31	9	9	7	5	9	1	2	1	1	....	....	....	....	2	3	8
TOTAL	499	298	63	57	45	39	28	15	6	6	3	2	1	1	1	31	27	39

TABLE 7.—ANALYSIS BY SPECIALTIES OF WHAT WAS OMITTED IN UNDERGRADUATE INSTRUCTION IN PSYCHIATRY WHICH WOULD HAVE BEEN VALUABLE IN THAT PARTICULAR SPECIALTY

Type of Practice	Total Replies Considered	Treatment (General)	Insufficient Clinical and Practical Instruction	Treatment (Neuroses)	Insufficient Instruction in Neuroses	Insufficient Borderline Cases	Child Psychiatry	Psychiatric Examination	Legal Aspects of Psychiatry	Dynamic Psychiatry and Psychoanalysis	Etiology	Psychologic Factor in Physical Disease	Mental Hygiene	Sexual Problems	Prognosis	Irrelevant	No Omissions	No Reply
General Practice	269	91	70	52	28	13	5	8	5	1	4	2	3	2	1	16	26	18
Internal Medicine	34	11	4	8	7	....	....	....	....	....	1	....	....	....	2	3	1	2
General Surgery	28	4	5	3	2	....	1	1	1	2	....	....	....	....	....	5	7	2
Eye, Ear, Nose, Throat	18	3	1	1	2	....	....	1	....	....	....	....	....	....	....	3	2	5
Neuropsychiatry	15	4	2	4	2	2	....	1	1	2	2	2	....	....	....	....	....	1
Obstetrics and Gynecology	12	4	1	1	3	....	....	....	....	....	....	1	....	1	1	1	....	3
Pediatrics	10	1	1	1	....	....	4	....	....	....	1	....	1	....	....	2	1	....
Orthopedics	9	1	1	2	1	....	....	....	1	1	....	....	....	....	....	2	....	2
Urology	8	2	2	1	....	....	....	....	....	....	....	....	....	1	....	....	2	1
Government Service (General)	7	3	1	1	1	1	....	....	....	....	....	....	....	....	....	....	1	....
Anesthesia	3	....	....	....	....	....	....	1	....	....	....	....	....	....	....	1	....	1
Bacteriology	3	....	....	....	1	....	....	....	....	1	....	1	1	....	....	....	....	1
Dermatology and Syphilis	2	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1
Pathology	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2
Physiology	2	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	1
X-Ray	2	....	....	....	1	....	....	....	....	....	....	....	....	....	....	1	....	....
Proctology	2	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	1	....
Physical Therapy	2	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	1	....
Government Service (X-Ray and Pathology)	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Public Health	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Student Health Service	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
Specialty (Unclassified)	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....
Tuberculosis Institute	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....
Teaching (Histology and Neurology)	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
Not Practicing	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Residents and Interns	64	12	5	7	7	....	3	....	1	1	1	2	1	....	....	6	8	10
TOTAL	499	136	93	82	50	17	13	12	9	9	9	8	6	5	4	42	58	53

TABLE 8.—ANALYSIS BY SPECIALTIES OF THAT WHICH IS OF GREATEST PRACTICAL VALUE IN PSYCHIATRY IN EACH TYPE OF PRACTICE

Type of Practice	Number of Replies Considered	Recognition and Differential Diagnosis of Various Disease Entities				Clinical Description of Various Disease Entities				Prognosis and Management of Various Disease Entities				Exposition of Theoretical Dynamic Psychology				Familiarity with Theories of Psychogenesis			
		Very	Moderate	Little	No Reply	Very	Moderate	Little	No Reply	Very	Moderate	Little	No Reply	Very	Moderate	Little	No Reply	Very	Moderate	Little	No Reply
General Practice	269	224	34	7	4	185	62	10	12	170	65	24	10	33	56	123	57	14	69	133	53
Internal Medicine	34	1	28	4	1	2	19	11	2	3	17	11	3	6	5	8	15	5	4	9	16
General Surgery	28	22	3	....	3	21	2	2	3	9	11	5	3	2	5	12	9	2	7	13	6
Eye, Ear, Nose, Throat	18	12	4	....	2	7	6	....	5	9	3	2	4	1	5	6	6	....	5	8	5
Neuropsychiatry	15	8	4	3	....	7	7	1	....	10	4	1	....	6	7	2	....	6	2	7	....
Obstetrics and Gynecology	12	7	1	2	2	7	1	2	2	5	1	4	2	3	1	5	3	2	5	3	2
Pediatrics	10	7	2	1	....	6	1	2	1	2	6	1	1	....	4	3	3	....	2	6	2
Orthopedics	9	7	1	1	....	5	3	....	1	3	1	4	1	2	2	....	5	....	4	....	5
Urology	8	4	1	1	2	6	....	....	2	4	1	1	2	1	2	2	3	....	1	4	3
Government Service (General)	7	5	2	....	....	4	3	....	....	2	4	1	....	....	3	4	....	....	3	4	....
Anesthesia	3	1	1	....	1	1	1	....	1	....	1	....	2	1	....	....	2	....	1	....	2
Bacteriology	3	1	1	....	1	2	....	....	1	1	1	....	1	2	....	....	1	....	1	1	1
Dermatology and Syphilis	2	1	1	....	....	1	1	....	....	....	1	....	1	....	....	1	1	....	....	1	1
Pathology	2	1	....	....	1	....	2	....	....	1	....	....	1	....	....	1	1	....	1	....	1
Physiology	2	1	....	....	1	1	....	....	1	1	....	....	1	1	....	....	1	....	....	1	1
X-Ray	2	2	....	....	....	1	1	....	....	2	....	....	....	....	....	2	....	....	1	1	....
Proctology	2	2	....	....	....	2	....	....	....	2	....	....	....	....	....	2	....	....	1	1	....
Physical Therapy	2	1	1	....	....	....	1	....	1	2	....	....	....	....	1	....	1	....	....	1	1
Government Service (X-Ray and Pathology)	1	1	....	....	....	....	1	....	....	....	1	....	....	....	....	1	....	....	....	1	....
Public Health	1	1	....	....	....	....	1	....	....	....	1	....	....	....	....	1	....	....	....	1	....
Student Health Service	1	1	....	....	....	1	....	....	....	1	....	....	....	....	1	....	....	....	1	....	....
Specialty (Unclassified)	1	1	....	....	....	1	....	....	....	1	....	....	....	....	1	....	....	....	1	....	....
Tuberculosis Institute	1	....	....	1	....	....	1	....	....	....	....	1	....	....	1	....	....	....	....	1	....
Teaching (Histology and Neurology)	1	1	....	....	....	1	....	....	....	1	....	....	....	....	1	....	....	....	1	....	....
Not Practicing	1	....	....	....	1	....	....	....	1	....	....	....	1	....	....	....	1	....	....	....	1
Residents and Interns	64	49	7	1	7	43	13	....	8	35	18	3	8	3	16	27	18	2	14	33	15
TOTAL	499	362	90	21	26	304	126	28	41	264	136	58	41	64	108	200	127	31	124	229	115

TABLE 9.—ANALYSIS BY SPECIALTIES AS TO WHAT AMOUNT OF EMPHASIS SHOULD BE PLACED ON THE TEACHING OF MENTAL DERANGEMENTS OCCURRING WITH PHYSICAL DISEASE OR THOSE DUE TO DRUGS OR HEAD TRAUMA

Type of Practice	Number of Replies Considered	Great Emphasis	Moderate Emphasis	Little or No Emphasis	No Reply
General Practice	269	121	129	14	5
Internal Medicine	34	16	14	3	1
General Surgery	28	19	8	....	1
Eye, Ear, Nose, Throat	18	6	10	....	2
Neuropsychiatry	15	6	6	3	....
Obstetrics and Gynecology	12	8	2	....	2
Pediatrics	10	5	5	....	....
Orthopedics	9	4	3	1	1
Urology	8	3	2	....	3
Government Service (General)	7	2	5	....	....
Anesthesia	3	1	1	....	1
Bacteriology	3	1	1	....	1
Dermatology and Syphilis	2	2	....	....	....
Pathology	2	1	1	....	....
Physiology	2	....	1	....	1
X-Ray	2	1	1	....	....
Proctology	2	1	....	....	1
Physical Therapy	2	1	1	....	....
Government Service (Pathology and X-Ray)	1	....	1	....	....
Public Health	1	....	1	....	....
Student Health Service	1	1	....	....	....
Specialty (Unclassified)	1	....	1	....	....
Tuberculosis Institute	1	....	1	....	....
Teaching (Histology and Neurology)	1	....	....	....	1
Not Practicing	1	....	....	....	1
Residents and Interns	64	30	27	....	7
TOTAL	499	229	221	21	28

TABLE 10.—ANALYSIS OF REPLIES AS TO WHAT KNOWLEDGE OF THE MAJOR PSYCHOSES IS CONSIDERED TO BE NECESSARY IN EACH TYPE OF PRACTICE

Type of Practice	Number of Replies	Number Who Answered Question as Worded	Diagnosis	Treatment	Prognosis	General Knowledge	Etiology	Prophylaxis	Pathology	Complications	Little	Irrelevant	No Responsive Reply
General Practice	269	199	159	72	56	38	10	1	1	1	1	6	10
Internal Medicine	34	30	26	13	11	3	2	....	....	....	....	....	1
General Surgery	28	24	15	3	4	5	....	....	....	....	....	2	2
Eye, Ear, Nose, Throat	18	10	3	....	....	2	....	....	....	....	....	....	5
Neuropsychiatry	15	13	5	2	2	8	1	....	....	....	....	....	....
Obstetrics and Gynecology	12	5	1	....	....	2	....	....	....	....	....	1	1
Pediatrics	10	5	1	....	....	3	1	1	....	....	....	1	1
Orthopedics	9	8	6	1	....	2	....	....	....	....	1	....	....
Urology	8	5	3	1	....	....	....	....	....	....	....	....	2
Government Service (General)	7	6	4	....	2	4	1	1	....	....	....	....	....
Anesthesia	3	3	1	....	....	1	....	....	....	....	....	....	1
Bacteriology	3	3	1	1	1	1	1	1	....	....	....	....	1
Dermatology and Syphilis	2	0	....	....	....	....	....	....	....	....	....	....	....
Pathology	2	1	....	....	....	....	....	....	....	....	....	....	1
Physiology	2	2	....	....	....	1	....	....	....	....	....	....	1
X-Ray	2	2	1	....	....	....	....	....	....	....	....	....	1
Proctology	2	2	....	....	....	1	....	....	....	....	....	1	....
Physical Therapy	2	1	1	....	....	....	....	....	....	....	....	....	....
Government Service (X-Ray and Pathology)	1	1	1	1	1	....	....	....	....	....	....	....	....
Public Health	1	0	....	....	....	....	....	....	....	....	....	....	....
Student Health Service	1	1	....	....	....	1	....	....	....	....	....	....	....
Specialty (Unclassified)	1	1	1	....	....	....	....	....	....	....	....	....	....
Tuberculosis Institute	1	0	....	....	....	....	....	....	....	....	....	....	....
Teaching (Histology and Neurology)	1	1	....	....	....	....	....	....	....	....	....	1	....
Not Practicing	1	1	....	....	....	....	....	....	....	....	....	....	1
Residents and Interns	64	55	31	11	7	9	2	1	....	....	....	2	10
TOTAL	499	379	260	105	84	81	18	5	1	1	2	14	38

TABLE 11.—ANALYSIS OF WHAT UNDERGRADUATE TEACHING IN NEUROLOGY HAS PROVEN TO BE OF VALUE IN EACH TYPE OF PRACTICE

Type of Practice	Number of Replies Considered	Diagnosis	Anatomy	General Knowledge	Neurologic Examination	Peripheral Nerve Lesions	Treatment	Physiology	Prognosis	Pathology	Traumatic Neurology	Autonomic Nervous System	Etiology	Little or Nothing	Irrelevant	No Reply
General Practice	269	158	63	47	35	20	22	13	7	2	2	....	....	4	6	20
Internal Medicine	34	18	8	3	10	....	....	3	1	....	....	....	....	....	....	5
General Surgery	28	13	5	9	3	8	1	2	....	....	....	1	....	....	....	3
Eye, Ear, Nose, Throat	18	7	6	5	2	....	....	....	....	....	....	....	1	....	1	4
Neuropsychiatry	15	9	5	4	5	1	1	....	....	....	....	....	....	....	....	1
Obstetrics and Gynecology	12	6	1	2	....	....	....	....	....	....	....	....	....	....	1	2
Pediatrics	10	3	2	4	2	....	....	....	....	1	....	....	....	....	....	1
Orthopedics	9	5	1	1	2	....	1	1	....	....	....	....	....	....	....	....
Urology	8	3	1	1	....	....	....	1	....	1	....	....	....	....	....	1
Government Service (General)	7	1	2	3	3	1	....	2	....	....	....	....	....	....	....	....
Anesthesia	3	....	....	1	....	1	....	....	....	....	....	....	....	....	....	1
Bacteriology	3	2	1	....	1	....	....	....	....	....	....	....	....	....	....	1
Dermatology and Syphilis	2	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....
Pathology	2	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1
Physiology	2	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1
X-Ray	2	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Proctology	2	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1
Physical Therapy	2	1	....	....	....	2	....	....	....	....	....	....	....	....	....	....
Government Service (X-Ray and Pathology)	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Public Health	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Student Health Service	1	....	1	....	....	....	....	....	....	1	....	....	....	....	....	....
Specialty (Unclassified)	1	....	....	....	1	1	....	....	....	....	....	....	....	....	....	....
Tuberculosis Institute	1	....	1	....	....	....	....	1	....	....	....	....	....	....	....	....
Teaching (Histology and Neurology)	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Not Practicing	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Residents and Interns	64	36	8	13	18	5	2	1	1	2	4	....	....	....	1	11
TOTAL	499	264	106	97	82	39	27	24	9	8	7	1	1	4	9	56

TABLE 12.—ANALYSIS OF REPLIES REGARDING NEUROLOGY AS TO WHAT SHOULD HAVE BEEN TAUGHT THAT WAS OMITTED AND WHAT SHOULD HAVE BEEN OMITTED THAT WAS TAUGHT

Type of Practice	Number of Replies	More Clinical Instruction (including diagnosis)	More Emphasis on Common Conditions	More Stress on Treatment	Too Much Detail Including Microscopic Anatomy	Stress Neurologic Examinations by student	Pathology Inadequately Taught	Too Much Theory	More Stress on Applied Anatomy	More Contacts with Patients	More Stress on Peripheral Nervous System	More Work on Traumatic Neurology (inc. birth injury)	Better Organization of Course	More Stress on Prognosis	More Stress on Fundus Examination	Teach on Level of Students	More Physiology (Applied)	More Work on Brain Lesions	More Stress on Interpretation of Signs	Too Much Time Spent in Neurology	More Stress on Vegetative Nervous System	Increase Length of Course	More Tolerant Type of Instruction	Too Much Didactic Work	Better Dispensary Supervision	More Stress on Toxic Diseases	More Stress on Borderline Cases	More Work on Degenerative Diseases	More Work on X-Ray Findings	No Omissions	Irrelevant	No Reply
General Practice	269	58	38	28	26	17	8	12	11	7	8	5	4	5	5	3	....	2	4	3	1	2	2	2	2	1	1	....	....	51	16	39
Internal Medicine	34	5	3	4	....	4	2	1	....	1	....	1	1	....	1	1	....	2	....	....	....	....	....	....	....	....	....	....	....	8	4	3
General Surgery	28	5	....	2	....	2	....	1	....	....	2	3	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	1	....	9	1	4
Eye, Ear, Nose, Throat	18	4	3	1	1	....	....	....	2	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	1	8
Neuropsychiatry	15	3	2	....	....	2	4	1	1	2	....	....	2	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	2
Obstetrics and Gynecology	12	1	1	2	1	1	1	1	....	....	....	....	....	2	....	....	....	....	....	1	....	1	....	....	....	....	....	....	....	1	....	4
Pediatrics	10	1	....	1	....	1	2	....	....	....	....	....	....	....	1	1	....	....	....	....	1	....	....	....	....	....	....	....	1	2	1	1
Orthopedics	9	1	....	1	....	....	....	....	....	....	1	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4	1	....
Urology	8	1	1	1	1	....	....	....	....	....	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	2
Government Service (General)	7	1	1	....	1	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4	....	....
Anesthesia	3	....	....	....	....	1	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Bacteriology	3	....	....	....	1	....	2	....	....	....	1	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Dermatology and Syphilis	2	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Pathology	2	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Physiology	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2
X-Ray	2	1	....	1	....	....	....	....	....	....	....	....	....	1	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
Proctology	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Physical Therapy	2	....	1	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Government Service (X-Ray and Pathology)	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
Public Health	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....
Student Health Service	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Specialty (Unclassified)	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....
Tuberculosis Institute	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
Teaching (Histology and Neurology)	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Not Practicing	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Residents and Interns	54	13	8	3	2	....	2	2	2	4	....	3	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	17	1	16
TOTAL	499	97	58	44	33	30	22	18	16	14	14	13	11	8	7	7	5	4	4	4	3	3	2	2	2	1	1	1	1	103	27	87

TABLE 13.—ANALYSIS OF REPLIES AS TO HOW VALUABLE IS A KNOWLEDGE OF NEUROLOGY AND PSYCHIATRY IN EACH TYPE OF PRACTICE

Type of Practice	Number of Replies Considered	Knowledge of Neurology				Knowledge of Psychiatry			
		Very Valuable	Moderately Valuable	Little or No Value	No Reply	Very Valuable	Moderately Valuable	Little or No Value	No Reply
General Practice	269	122	134	11	2	108	141	17	3
Internal Medicine	34	20	13	1	....	19	11	4	....
General Surgery	28	14	10	3	1	12	13	2	1
Eye, Ear, Nose, Throat	18	10	7	....	1	1	13	3	1
Neuropsychiatry	15	14	1	....	....	14	1	....	....
Obstetrics and Gynecology	12	1	8	3	....	5	5	2	....
Pediatrics	10	6	4	....	....	4	3	3	....
Orthopedics	9	9	....	....	....	1	7	1	....
Urology	8	1	6	....	1	2	4	1	1
Government Service (General)	7	5	2	....	....	6	1	....	....
Anesthesia	3	....	2	....	1	1	1	....	1
Bacteriology	3	1	1	....	1	1	1	....	1
Dermatology and Syphilis	2	1	1	....	....	....	2	....	....
Pathology	2	1	1	....	....	....	....	2	....
Physiology	2	1	....	....	1	1	....	....	1
X-Ray	2	2	....	....	....	....	1	1	....
Proctology	2	1	1	....	....	2	....	....	....
Physical Therapy	2	2	....	....	....	1	1	....	....
Government Service (X-Ray and Pathology)	1	....	1	....	....	....	1	....	....
Public Health	1	....	....	1	....	....	....	1	....
Student Health Service	1	1	....	....	....	1	....	....	....
Specialty (Unclassified)	1	....	1	....	....	....	1	....	....
Tuberculosis Institute	1	....	1	....	....	1	....	....	....
Teaching (Histology and Neurology)	1	1	....	....	....	....	1	....	....
Not Practicing	1	....	....	....	1	....	....	....	1
Residents and Interns	64	32	22	1	9	20	31	4	9
TOTAL	499	245	216	20	18	200	239	41	19

TABLE 14.—ANALYSIS OF SUGGESTIONS FOR THE TEACHING OF NEUROLOGY TO THE UNDERGRADUATES

Type of Practice	Number of Replies Considered	More Clinical Instruction Including Diagnosis	More Emphasis on Common Conditions	More Stress on Neurologic Examination	More of Practical Anatomy	More Contact with Patients	More Treatment	Better Organization of Course	More Applied Physiology	Less Microscopic Detail in Anatomy and Pathology	More Tolerant and Better Instructors	Smaller Classes	More on Peripheral Nervous System	Stress Importance of Neurology in General Practice	Teach on Level of Students	Good Course in Pathology	Stimulate More Interest in Course	More on Prognosis	More on Autonomic Nervous System	Less Theory	More Courses	More Examinations in Didactic Work	More Dispensary Work and Better Supervision	More on Skull Injuries	More Fundus Examinations	Less Pathology	Decrease Size of Course	More Movies	More Instruction by Senior Men	Outline of Neurology Published by Department	More Physiotherapy	More Neurology Clerkships	Medical-Legal Aspects of Neurology	Graduate Courses for Those Interested	No Suggestions	Irrelevant	No Reply
General Practice	269	102	33	26	24	15	15	9	4	8	7	3	7	3	6	1	3	4	—	4	2	1	2	1	2	2	1	1	2	—	1	1	—	—	43	1	33
Internal Medicine	34	11	3	4	6	4	1	1	1	—	2	—	—	2	—	2	2	1	1	1	—	—	—	1	1	—	—	—	—	—	—	—	—	5	—	4
General Surgery	28	11	3	3	5	—	1	3	2	—	—	—	1	—	—	1	—	—	—	—	2	1	—	—	—	—	—	—	—	—	—	—	1	1	2	—	6
Eye, Ear, Nose, Throat	18	6	—	2	4	—	1	1	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	5
Neuropsychiatry	15	4	4	4	1	3	—	1	—	—	—	1	—	1	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1
Obstetrics and Gynecology	12	4	—	—	—	—	1	—	—	1	1	—	1	2	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	2	—	8
Pediatrics	10	3	2	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	2
Orthopedics	9	2	—	—	—	—	1	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1	1
Urology	8	3	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2
Government Service (General)	7	2	1	2	1	—	—	—	1	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	—	—
Anesthesia	3	—	—	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Bacteriology	3	1	—	—	1	—	—	—	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Dermatology and Syphilis	2	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pathology	2	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Physiology	2	—	—	—	—	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
X-Ray	2	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Proctology	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Physical Therapy	2	1	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Government Service (X-Ray and Pathology)	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Public Health	1	1	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Student Health Service	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Specialty (Unclassified)	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Tuberculosis Institute	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Teaching (Histology and Neurology)	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Not Practicing	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Residents and Interns	64	27	7	5	4	1	2	4	1	1	1	5	—	—	1	—	—	1	1	—	1	2	2	1	—	—	—	—	—	2	—	—	—	—	6	—	10
TOTAL	499	180	56	48	46	24	22	21	12	12	12	11	10	10	9	7	7	6	6	5	5	4	4	3	3	3	3	3	3	3	3	1	1	1	1	73	3	78

TABLE 15.—ANALYSIS OF SUGGESTIONS FOR THE TEACHING OF PSYCHIATRY TO THE UNDERGRADUATES

TABLE 15.—ANALYSIS OF SUGGESTIONS FOR THE TEACHING OF PSYCHIATRY TO THE UNDERGRADUATES

Type of Practice	Number of Replies Considered	More Clinical Instruction Including Diagnosis	More Contact with Patients	More Work on Neuroses	More Treatment	Better Organization of Courses	More Emphasis on Common Conditions	More Borderline Cases	More Stress on Psychiatric Examinations	Less Theory and Detail	More Stress on Dynamic Psychiatry	Teach Psychologic Factors in Physical Disease	More Tolerant and Better Instructors	Stress Importance of Psychiatry in General Medicine	Review Course in Psychology	Study of Personality and Human Behavior	More Courses	Child Psychiatry	More on Prognosis	Stimulate More Interest in Courses	More Didactic Work	Less Accent on Sexual Factors	Smaller Groups of Students and Seminary Courses	Psychopathology	Mental Hygiene	Legal Aspects of Psychiatry	Outline of Psychiatry by the Department	More on Sexual Problems	No Suggestions	Irrelevant	No Reply
General Practice	269	98	21	29	24	8	18	13	5	5	5	6	4	5	4	....	4	2	3	3	4	2	....	....	....	1	1	....	46	2	33
Internal Medicine	34	6	2	9	3	4	3	....	....	2	1	1	2	1	1	....	1	....	....	....	....	....	1	....	....	....	....	....	4	2	3
General Surgery	28	12	2	4	1	2	1	....	....	....	....	1	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	1	2	2	4
Eye, Ear, Nose, Throat	18	5	1	....	2	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	2	2
Neuropsychiatry	15	4	....	1	2	4	....	3	2	....	4	1	....	....	1	3	....	....	....	....	....	....	1	1	....	....	....	....	1	2	....
Obstetrics and Gynecology	12	4	1	1	3	....	....	....	1	....	....	....	1	1	....	1	....	....	1	....	....	....	....	....	....	....	....	....	1	....	3
Pediatrics	10	1	....	1	....	....	....	....	1	....	....	....	....	....	....	....	....	2	....	....	....	1	....	....	....	1	....	....	1	....	3
Orthopedics	9	1	1	....	....	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3	1	2
Urology	8	3	....	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3	....	2
Government Service (General)	7	3	....	....	....	1	....	....	2	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	....
Anesthesia	3	1	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
Bacteriology	3	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1
Dermatology and Syphilis	2	1	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Pathology	2	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1
Physiology	2	....	....	....	....	1	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
X-Ray	2	2	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
Proctology	2	....	....	....	....	....	....	....	....	....	....	....	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Physical Therapy	2	....	1	....	....	....	....	....	....	....	....	....	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Government Service (X-Ray and Pathology)	1	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Public Health	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Student Health Service	1	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
Specialty (Unclassified)	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Tuberculosis Institute	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Teaching (Histology and Neurology)	1	....	....	....	....	....	....	....	....	....	....	....	.....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Not Practicing	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	5	....	10
Residents and Interns	64	18	3	4	6	13	3	....	4	5	....	1	1	....	....	2	1	2	....	2	....	....	....	1	....	....	....	....	72	10	77
TOTAL	499	162	33	52	42	37	26	16	16	13	10	10	9	8	7	7	6	6	5	5	4	3	2	2	2	1	1	1	72	10	77

TABLE 16.—ANALYSIS OF REMARKS IN GENERAL

Type of Practice	Number of Replies Considered	Course in Neurology Good	Course in Neurology Not Good	Course in Psychiatry Good	Course in Psychiatry Not Good	More Work in Neuroses	Better and More Tolerant Instructors	Course in Neuropsychiatry Too Short or Inadequate	Idea of Questionnaire Good	More Clinical Instruction	Omit Unimportant Details and Theory	Other Departments Should Have Questionnaires	More Emphasis on Common Condition	Better Organization of Courses	More Contact with Patients	Course in Neuropsychiatry Too Long or Complex	More Treatment	Psychological Factors in Physical Disease	Course in Mental Hygiene	Instruction in Collateral Reading	Child Psychiatry	Smaller Classes	More Instruction by Senior Men	More Stress on Neuropathology	Legal Aspects of Neuropsychiatry	More Neuropsychiatric Clerkships	Irrelevant	No Reply
General Practice	269	46	....	43	....	12	12	12	9	10	7	9	5	2	3	4	4	3	1	1	....	1	1	....	....	1	22	134
Internal Medicine	34	1	....	1	....	1	4	2	1	1	....	....	1	1	....	1	1	....	....	....	....	....	....	1	....	....	3	19
General Surgery	28	6	....	6	....	....	....	....	1	....	....	1	....	....	1	....	....	....	....	....	....	....	....	....	1	....	1	17
Eye, Ear, Nose, Throat	18	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	1	16
Neuropsychiatry	15	....	....	....	....	....	....	....	1	....	....	....	....	1	2	....	....	....	1	....	....	....	....	....	....	....	3	8
Obstetrics and Gynecology	12	....	....	....	....	1	....	....	....	....	....	....	....	....	....	1	1	....	....	....	....	....	....	....	....	....	3	7
Pediatrics	10	2	....	1	1	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	2	....	....	....	....	....	2	5
Orthopedics	9	3	....	3	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	6
Urology	8	1	....	1	....	1	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	2	3
Government Service (General)	7	3	....	3	....	....	....	....	....	1	1	....	1	....	....	....	....	....	1	....	....	....	....	....	....	....	1	1
Anesthesia	3	1	....	1	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	1
Bacteriology	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	2
Dermatology and Syphilis	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2
Pathology	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1
Physiology	2	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1
X-Ray	2	....	....	....	....	1	....	....	....	....	....	....	....	1	....	....	1	....	....	....	....	....	....	....	....	....	....	....
Proctology	2	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Physical Therapy	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1
Government Service (X-Ray and Pathology)	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Public Health	1	....	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Student Health Service	1	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Specialty (Unclassified)	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Tuberculosis Institute	1	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Teaching (Histology and Neurology	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Not Practicing	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Residents and Interns	64	19	1	20	....	....	....	1	2	1	2	....	3	1	1	1	....	....	....	....	....	....	....	....	....	....	5	22
TOTAL	499	85	2	82	2	16	16	15	15	13	10	10	10	9	8	7	7	4	2	2	2	1	1	1	1	1	46	251

Accomplishment in Medical College

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Many of the conclusions regarding factors influencing accomplishment by our medical students have been based on the accomplishment of such students during the first year only of the medical course. The study reported herewith covers the accomplishment of students during their entire career in medical college. This study covers an analysis of 1,175 students admitted to the Baylor University College of Medicine for the years 1926 to 1936, both years inclusive. Of this number, 790, or 67.2 per cent, graduated; 206, or 17.5 per cent, failed and were dropped from the rolls, and 179, or 15.2 per cent, withdrew for various and sundry reasons. Data regarding each group is presented in the tables which follow.

From these tables it will be noted that the influence of various factors—age, amount of college preparation, general scholastic average, parentage—on the accomplishment in medical college have been studied. The age given is that at the time of admission of the student. Many academic institutions were represented by this group of students and credits and grades were reported in a variety of ways. For purposes of this study all credits were reduced to semester hours, and 30 semester hours were considered the equivalent of a full year or session of work. In the matter of reducing grades to a common denominator, there is greater difficulty. For the purpose of this study the following system was used:

A=90 B=80 C=70 D=60 E=50 F=45

Plus and minus signs after grades and any in between figures were not considered. Where letters other than the first letters of the English alphabet, Roman numerals and figures 1 to 5 were used, these were converted into the system given above. It is recognized that by this system the general scholastic average, in most instances, will represent the minimum average. It is also recognized that there is a difference in the grading standards of different institutions. After reducing the grades to a common denominator, the following system was used for reporting the general scholastic average in the tables to follow:

A+=95-100	B+=85- 90	C+=75- 80	D+=65- 70
A =90- 95	B =80- 85	C =70- 75	D =60- 65

Accomplishment in the medical college, as indicated in the tables covering the studies of graduates, is reported: (1) those with clear record in all courses for the four years; (2) those with rank in upper, middle and lower thirds for each class; (3) those receiving deficiency grades in one or more courses for each year; (4) those who failed and repeated with the year repeated. In all tables included in this report the figures given in columns "Total" represent the actual number in each group, all other figures represent percentages of the respective totals.

Parentage	Total	Clear Record Four Years	Rank in Class												Deficiencies	
			First Year			Second Year			Third Year			Fourth Year				
			Upper Third	Middle Third	Lower Third	Upper Third	Middle Third	Lower Third	Upper Third	Middle Third	Lower Third	Upper Third	Middle Third	Lower Third	First Year	Fourth Year
Medical	139	32.3	28.0	41.7	30.2	27.3	32.3	40.2	26.6	38.1	35.2	25.8	35.9	38.1	43.1	3.6
Nonmedical	651	43.4	41.4	36.5	21.9	36.5	36.5	26.8	35.3	32.5	32.1	35.6	32.5	31.7	29.9	3.5

The question is asked frequently, "Do the students of medical parentage do better in medical college than others?" No doubt this question is prompted by the thought that a particular fitness for the study of medicine is, perhaps, inheritable, or that a medical environment may develop such fitness. Medical ancestry is offered frequently as an argument for the admission of a particular student. Table 1 represents a comparison of the accomplishment in medical college and the college preparation of graduates of medical parentage and those of non-medical parentage. It will be noted (1) the percentage of those with clear record for the four years is greater for the non-medical parentage group by 11.1 per cent than that for the medical parentage group; (2) 25.8 per cent of those of medical parentage maintained rank in the upper third throughout the medical course while 35.3 per cent of those of non-medical parentage maintained such rank; (3) the percentage of those with deficiencies is greater for the medical parentage group; (4) the percentage of those who failed and repeated is practically the same for each group.

On the basis of these findings it may be concluded that students of medical parentage do not fare as well in medical college as those of non-medical parentage, and that medical ancestry does not give to the offspring any particular fitness for the study of medicine nor does a medical environment play a part. But it must be recognized that there is, apparently, some difference in the college preparation of the two groups in that 48.0 per cent of those of medical parentage had three or more years of college preparation while 50.9 per cent of those of non-medical parentage had such preparation. But more important is the fact that only 22.9 per cent of those of medical parentage had a premedical general scholastic average of C plus or better while 43.3 per cent of those of non-medical parentage had such a scholastic average. These differences in amount of preparation and scholarship may account for the difference of the two groups in accomplishment in medical college. Granting that this is true, it may be concluded that students of medical parentage do not fare any better, at least, in medical college than do those of non-medical parentage. It would appear that the committee on admissions has been disposed to be more liberal toward the medical parentage group. Perhaps, the pressure for admission by this group is greater.

In Table 2 a comparison is made of the 1,175 students divided into the two groups based on parentage. It will be noted that 3.2 per cent more of the medical parentage group failed yet a higher percentage of the non-medical

Parentage	Failed and Repeated				College Preparation							Premedical College Scholarship						
	Fourth Year	First Year	Second Year	Third Year	2 years	2-3 years	3-4 years	4 or more years no degree	A.B.	B.S.	M.A.	A	B+	B	C+	C	D+	D
	3.6	5.7	5.7	none	4.0	47.5	22.3	0.7	13.6	10.0	1.4	none	1.4	8.6	12.9	39.5	31.6	5.7
	3.6	5.2	4.9	0.4	6.1	42.7	25.8	2.1	14.2	7.6	1.2	0.4	7.3	14.1	21.5	30.4	20.1	5.9

parentage group withdrew so that the loss for each group was practically the same. Less than 1 per cent more of the non-medical parentage group finally graduated.

TABLE 2
Influence of Parentage

Parentage	Total Number of Students	Graduated	Failed & Dropped	Withdrew During or at End of Year		
				First year	Second year	Third year
Medical	208	66.8	20.1	10.5	2.4	none
Nonmedical	967	67.3	16.9	13.5	1.6	0.5

From the data in Table 3 some outstanding and interesting observations may be made relative to the influence of the amount of college preparation. On the basis of clear record in all courses for the four years the rank of accomplishment in medical college falls in the following order from the highest to the lowest: Master's degree, B.S. degree, A.B. degree, 3-4 years, 2 years, 2-3 years, 4 or more years, no degree. Considered further from the standpoint of rank in class and percentage of deficiencies in courses the 4 or more years no degree group constitutes the poorest risk. The highest percentage of repeaters occurred in the 2 year group, the next highest in the 4 or more years no degree

TABLE 3
Influence of Amount of College Preparation

College Preparation	Total	Clear Record Four Years	Rank in Class												Conditioned in One or More Courses				Failed and Repeated		
			First Year			Second Year			Third Year			Fourth Year			First year	Second year	Third year	Fourth year	First year	Second year	Third year
			Upper third	Middle third	Lower third	Upper third	Middle third	Lower third	Upper third	Middle third	Lower third	Upper third	Middle third	Lower third							
2 years	46	39.1	43.4	32.6	23.9	32.6	36.9	30.4	23.9	36.9	39.1	19.5	43.4	36.9	30.4	36.9	10.8	2.1	8.6	8.6	none
2-3 years	344	35.4	32.2	40.9	26.7	33.4	37.2	29.3	30.2	34.6	34.8	32.5	31.1	36.3	35.7	45.9	18.0	0.4	5.8	5.5	0.5
3-4 years	199	48.2	37.1	37.6	25.1	30.1	36.6	33.1	36.6	29.6	33.6	31.6	34.6	33.6	33.6	37.6	13.0	2.5	4.5	5.5	none
4 or more years no degree	15	26.6	33.3	33.3	33.3	26.6	40.0	33.3	26.6	26.6	46.6	20.0	40.0	40.0	40.0	40.0	20.0	6.6	6.6	6.6	none
A.B. degree	112	45.0	46.4	34.8	18.7	31.2	38.3	30.3	30.3	38.7	33.9	36.6	39.2	24.1	25.8	33.0	14.2	3.5	2.6	4.4	none
B.S. degree	61	59.3	54.6	34.3	10.9	37.7	23.4	18.7	20.0	37.5	12.3	40.6	32.8	26.5	16.7	33.9	9.3	none	6.2	1.5	none
M.A. degree	10	100.0	100.0	none	none	70.0	10.0	20.0	60.0	20.0	20.0	70.0	20.0	10.0	none	none	none	none	none	none	none

group. It is interesting to note that in the 2 year group there was a progressive loss in class rank from the first year on with 43.4 per cent in the upper third for the first year but only 19.5 per cent for the fourth year.

The B.S. degree group, on the basis of clear record, standing in class and

deficiencies, made and maintained a better record than the A.B. degree group. The premedical scholarship of these two groups is practically the same.

In Table 4 data are presented covering the total number (1,175) of students admitted during the period. It will be noted that the 4 plus no degree group gave the smallest percentage of graduates and the highest percentage of failures and withdrawals. This group is the poorest risk from all standpoints. The next

TABLE 4
Influence of College Preparation

College Preparation	Total Number of Students	Graduated	Failed and Dropped	Withdrew
2 years	63	73.0	19.0	7.9
2-3 years	528	65.1	18.7	16.0
3-4 years	273	72.8	16.1	10.9
4 plus no degree	30	50.0	26.6	23.3
A.B.	170	65.8	13.5	20.5
B.S.	96	66.6	18.7	14.4
M.A.	15	66.6	13.3	20.0

TABLE 6
Influence of Premedical Scholarship

Scholarship	Total Number of Students	Graduated	Failed and Dropped	Withdrew
A	5	60.0	none	40.0
B+	65	76.9	1.5	21.5
B	137	75.9	6.5	17.5
C+	213	74.1	12.2	13.6
C	386	65.2	19.5	15.2
D+	280	62.5	22.8	14.6
D	87	54.0	34.4	11.4

weakest is apparently the 2-3 years group. The highest percentage of graduates occurred in the 2 years group, next in the 3-4 years group. In the degree groups the percentage of graduates is practically the same for each group but the percentage of failures is higher for the B.S. degree group. The lowest percentage of failures occurred in the A.B. and Master's degree groups yet the percentage of withdrawals was higher in each of these groups than in any group except the 4 plus no degree group. The loss through combined failures and withdrawals is practically the same for each of the degree groups and higher than for any other group except the 4 plus no degree group. Increased age of students in these groups, with the greater frequency of accompanying domestic and enlarged financial responsibilities, is accountable, in part, at least, for the greater loss in these groups. This would seem to be substantiated by data shown in Table 8.

That the general premedical scholarship has a positive bearing on accomplishment in medical college is indicated by the data in Tables 5 and 6. Because of the very small number in the A group it would seem only fair to disregard this group entirely, yet it should be noted that none of these students failed.

Age Groups	Total Number of Students	Clear Record for Four Years	Rank in Class: First Year			Second Year			Third Year			Fourth Year			Influence of Premedical Scholarship: First year
			Upper third	Middle third	Lower third	Upper third	Middle third	Lower third	Upper third	Middle third	Lower third	Upper third	Middle third	Lower third	
18, 19, 20	214	43.9	40.1	37.8	21.9	41.5	36.4	21.9	39.2	32.2	28.5	38.9	37.8	26.1	29.4
21, 22, 23	387	40.8	34.3	40.0	25.5	30.4	34.8	34.6	31.2	33.3	35.4	32.0	32.5	35.4	35.1
24, 25, 26	121	37.1	44.6	31.4	23.9	33.8	39.8	27.2	28.9	43.8	27.2	30.5	31.4	38.0	31.4
27 to 43, inclus.	68	45.5	52.9	32.3	14.8	38.2	36.7	25.0	38.2	25.0	36.7	42.6	27.9	29.4	23.5

TABLE 5
Influence of Premedical Scholarship

Premedical Scholastic Average	Total	Clear Record Four Years	Rank in Class: First Year Upper third	First Year Middle third	First Year Lower third	Second Year Upper third	Second Year Middle third	Second Year Lower third	Third Year Upper third	Third Year Middle third	Third Year Lower third	Fourth Upper third	Fourth Middle third	Fourth Lower third	Conditioned in One or More Courses: First year	Second year	Third year	Fourth year	Failed and Repeated: First year	Second year	Third year
	5	66.6	100.0	none	none	66.6	33.3	none	100.0	none	none	66.6	33.3	none	none	33.3	33.3	none	none	none	none
	50	76.0	78.0	16.0	6.0	78.0	16.0	6.0	72.0	16.0	12.0	68.0	16.0	16.0	6.0	16.0	8.0	none	none	none	none
	106	68.2	63.4	30.7	5.7	58.6	31.7	9.6	52.8	31.7	15.3	58.6	25.9	15.3	15.3	21.1	10.5	none	0.9	0.9	none
	158	52.8	49.3	32.2	18.3	40.5	39.8	19.6	40.5	33.5	25.9	40.5	35.4	24.0	22.1	38.4	9.4	3.7	3.7	5.0	none
	353	33.5	28.0	45.4	26.4	26.4	38.3	35.1	26.0	35.5	38.3	25.6	36.3	37.9	36.3	48.2	15.0	4.7	4.7	5.5	0.3
	175	23.4	22.8	40.0	37.1	20.0	37.7	42.2	18.8	35.4	45.7	19.4	36.0	44.5	48.0	49.1	21.7	4.0	9.1	8.0	0.5
	47	14.8	25.5	42.5	31.9	17.0	31.9	51.0	21.2	40.4	38.2	17.0	31.9	51.0	53.1	57.4	23.4	6.3	14.8	6.3	2.1

Table 5 is an analysis of the 790 graduates and it is very evident from the data presented that the higher the scholarship in premedical work the better the record in medical college from all standpoints—clear record for the 4 years, rank in class, deficiencies in courses and failures. Table 6 represents an analysis of the total number of students (1,175) admitted during the eleven year period and further substantiates the observation made in the preceding statement.

TABLE 6
Influence of Age

Age Groups	Total Number of Students	Graduated from Medical College	Failed & Dropped: 1st year	Failed & Dropped: 2nd year	Withdrew during or at end of year: 1st year	Withdrew during or at end of year: 2nd year	Withdrew during or at end of year: 3rd year
18,19,20	284	75.3	9.5	5.2	9.8	1.7	none
21,22,23	574	67.4	14.4	3.8	12.1	2.2	0.3
24,25,26	194	62.3	15.9	5.6	14.9	1.0	1.0
27 or more	123	55.2	14.6	8.1	21.1	0.8	0.8

It will be observed that the students have been divided into four age groups using the age at time of admission. In Table 7 the data concern the 790 graduates, while in Table 8 the data concern the total number of admissions (1,175) for the eleven year period. In Table 8 it will be observed that there is a progressive decrease in the percentage of graduates from the younger to the older age group while there is a progressive increase in the percentage of failures and withdrawals from the younger through to the older age group.

Influence of Age: First year	Fourth year	Failed and Repeated: First year	Second year	Third year	College Preparation: 2 years	2-3 years	3-4 years	4 or more years no degree	A.B.	B.S.	M.A. or M.S.	Premedical College Scholarship: A	B+	B	C+	C	D+	D
29.4	3.2	4.6	5.1	0.9	11.6	57.0	23.3	0.4	5.1	2.3	none	0.4	9.3	12.6	25.7	32.7	16.8	2.3
35.1	3.1	4.4	4.6	none	5.4	36.9	31.2	1.5	16.7	8.5	0.5	0.2	3.6	12.6	16.0	34.3	25.8	7.2
31.4	4.1	9.0	5.7	none	2.4	44.6	14.0	1.6	21.4	13.2	2.4	none	6.6	14.8	17.3	27.2	25.6	8.2
23.8	5.8	4.4	7.3	none	2.9	39.7	14.5	7.3	14.5	13.8	7.3	1.4	11.7	16.1	29.4	29.4	5.8	5.8

Report of the Committee on Aptitude Tests for Medical Schools

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This is the twelfth annual report of the Committee on Medical Aptitude Tests of the Association of American Medical Colleges, and at this time it might be well to review some of the basic considerations which led to the development of the test and a restatement of the general principles on which the test operates.

THE WHY OF THE TEST.—At the time the test was first used, the failure rate of students entering medical school was excessively high. In 1927, sixteen men of the graduating class of seventy-two in one medical school failed, and inasmuch as the students who failed from medical school were unable to utilize the very expensive training which they had received, it was considered not only unfair to them, but also unfair to the taxpayers to let such conditions continue if they could possibly be remedied. On further examination it was found that there were apparently twice as many students applying for admission to the various medical schools each year as there were places for them, and it was clear that if some means could be devised to aid in selecting the best 50 per cent and to eliminate the less promising 50 per cent, it would be advantageous to all concerned.

After more than a year of experimental work in one medical school, arrangements were made in 1928 to extend the experiment to fourteen other medical schools. On the basis of the studies in these fourteen schools, our first report was given to the Association at the 1929 meeting. Following this meeting, the experiment was extended to include seventy medical schools, and at the annual meeting in 1930 the test was adopted on an experimental basis by the Association as a normal requirement for entrance.

In the early experiments, the tests were given to students shortly after they entered medical school. Correlations were then made between the test grades of the student and his grades for his freshman year to determine the predictive value of the test. Beginning with 1930, however, the tests were given in all premedical schools, and after the test papers were graded and tabulated, the results were sent to the admission officers of all the medical schools to be used as possible aids in the selection of students.

In 1934, an independent Committee was appointed by the Association to evaluate the test as a criterion for success in medical school. This Committee consisted of Dr. Alan M. Chesney of Johns Hopkins University as Chairman and of Drs. Worth Hale (Harvard), Edw. S. Thorpe (Pennsylvania), W. C. Rappleye (Columbia), and W. K. Bloor (Rochester). They reported the results of their study at the Toronto Meeting of the Association in 1935, stating

that they found that the "Aptitude Test has definite value within certain limitations" and "that it should be continued by the Association." As a result of their report, the test was adopted by the Association as a normal requirement for entrance.

Since 1935, the test has been given regularly each year in more than 600 premedical schools to approximately eleven thousand students.

OBJECT OF THE TEST.—The test has one definite aim, namely to try to predict whether a given student will be able to complete the full course in medical school. The test is distinctly a scholastic aptitude test. No claim has ever been made that it will measure how well a student will succeed in his medical career after finishing school. It is self-evident that if he cannot get through medical school he will never have any medical career anyway. But while the test is designed to measure success in medical school, there is some evidence that it also measures success after completion of the medical course. In our study, published in the JOURNAL OF THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES, March, 1934, we found a fair correlation between scores on the aptitude test and success as interns as measured by numerical ratings given to them by those supervising their internships. We also found a fair correlation between the aptitude test scores and the grades made by the students in state and national board examinations.

THE NATURE OF THE TEST.—After a careful analysis of the qualities required for success in medical school, an effort was made to devise a test which would indicate the presence of these qualities. One of the most important qualities for success is sufficient mental alertness to learn quickly and to organize the material learned so that it can be retained and utilized in later work. This quality has been measured by giving the students the same kind of material to learn that they will have in medical school. After they have studied this material for a given length of time, they are examined on it to determine how much of it they have mastered. In other words, we are trying to sample the student's ability to learn under a set of standard conditions.

Another part of the test is based on the theory that those who have learned best in the past may reasonably be expected to learn best in the future, and inasmuch as the students have all had elementary courses in chemistry, physics, biology and English, a number of questions were included in each test to determine how well the students had learned this material. A third method of approaching this problem was by giving the student a very difficult reading passage to study such as he would frequently encounter in medical school, and with the reading passage before him so that he could refer to it as often as he wished, give him questions about it which involved his ability to make correct interpretations and deductions from the given set of data.

Inasmuch as the medical student and, later, the physician must constantly be drawing conclusions and making diagnoses from given sets of data, it was thought advisable to include such a test in our battery of scholastic aptitude tests,

and each year we have devised one test to determine the logical reasoning ability of the students. Here the students are given certain premises together with conclusions drawn from these premises and are asked to determine whether the conclusions so drawn are justified or unjustified.

How Well Does the Test Fufill its Mission?—Since the work began in 1927, many studies have been undertaken relative to the predictive value of the test. Studies made by our Committee have been published each year in the Journal, the first being published in 1930. Our studies have consistently shown that the test data, when properly interpreted, are of considerable aid to admission officers. In some instances they show better predictive value than the premedical grades, and in some instances the premedical grades have a higher predictive value, but *in all instances the best criterion is a combined one of test and premedical grades.*

From the beginning we have urged the admission officers to take into consideration all of the available data in selecting their medical students. It is quite conceivable that a man may have a low test rating due to the fact that he was under par on the day he took the test, but if he has high premedical grades and an excellent personality, together with good recommendations from his college professors, we have urged that the medical school could safely admit him. And it is quite conceivable that a given student may have a high test rating and also have excellent premedical grades, yet, due to certain personality defects, not be the type of man who could properly be admitted to a medical school. While we have consistently recognized that the tests were far from perfect, we have discovered through our studies that the other criteria used for selecting medical students also have serious defects. Such being the case, we have recommended that selections be based on all available criteria including college grades, personality factors, and test scores.

Studies of Dr. Chesney's Committee.—In addition to our own studies, several others have been undertaken independently, the most extensive one being that of Dr. Chesney's committee referred to above. The Committee was authorized by the Association of American Medical Colleges at the Nashville meeting in 1934. The object of the Committee was "A.—To determine by statistical analysis the correlation between the scores made by a significant number of those who have taken the test and their subsequent performance in medical school. B.—To obtain from experienced psychologists and others who are familiar with the use of such tests, opinion concerning the present form of the medical aptitude test."

The statistical analysis was conducted by Dr. Carroll H. Palmer, Associate in Biostatistics at Johns Hopkins University, and the following psychologists were consulted relative to the theories underlying the test: Dr. Edward L. Thorndike, Columbia University; Dr. Robert A. Brotemarkle, Personnel Officer of the University of Pennsylvania; and Dr. F. L. Wells, Psychology Laboratory of the Boston Psychopathic Hospital.

DR. PALMER'S STUDY.—Dr. Palmer took the data available to our Committee, namely the test scores of the students and their grades in medical school, and made a careful evaluation of them by standard statistical methods. In his study he used the data on nearly 7,000 students. He summarized the study in this sentence: "Except for certain practically insignificant differences, these findings are precisely those reported by Dr. Moss and by a number of other persons who have submitted analyses of the association between aptitude test and medical grade."

REPORT OF EXPERTS IN PSYCHOLOGY.—Dr. Chesney's committee furnished the three psychologists with copies of each form of the test used until that time and of copies of our reports. Each of the psychologists gave a separate report of his study and evaluation. All three agreed in recognizing the value of the test as an aid in selecting medical students.

Dr. Brotemarkle said, "I feel that, on the whole, the test is very good; that it would be a needless task to begin from the ground up in reconstructing another test, and feel that the need is for continued study and improvement of the present test forms."

Dr. Thorndike said, "I think they are very good. I should not like to attempt to make them better, except possibly by making them longer by the addition of a more generalized test in the comprehension of what one reads."[1]

Dr. Wells said, "The test utilizes principles well known in the construction of 'intelligence' and educational tests, its special feature being its medical content. It functions (1) as an 'intelligence' or mental alertness test, and (2) somewhat to favor persons whose development has led them to take an interest in medical topics."

STUDY AT STANFORD UNIVERSITY.—In 1931, an independent study of the predictive value of the test was made by the officials of Stanford University and published in their Faculty Bulletin.[2] They found a correlation between premedical grades and medical school averages of 0.67 and between test scores and medical school averages of 0.64. The significant fact here is not that the premedical grades gave a slightly higher correlation than the test scores, but that both are so good. The correlation between the medical averages and a combined criterion of test scores and premedical grades is 0.81, an exceedingly high correlation for the combined criterion, and shows clearly that the combined criterion gives the best predictive value.

STUDY AT GEORGE WASHINGTON UNIVERSITY IN 1932.—At the annual meeting of the Association of American Medical Colleges held in Philadelphia in 1932, a detailed study was reported of an analysis of the test which had been made by the professor of statistics at George Washington University under the direction and with the cooperation of the Dean's office of the medical school. Among the more important findings in this report based on the Pearson coefficient of correlation are:

1. The test has subsequently been modified to take advantage of Dr. Thorndike's suggestion.
2. Faculty Bulletin, No. 19, December 28, 1931.

"The correlation between the Premedical School average grades and the Medical School average grade is 0.52.

"The correlation between the Medical Aptitude Test scores and the Medical School average grade is 0.61.

"The correlation between the Premedical School average grades and the Aptitude Test Scores is 0.51."

"The above suggested the combining of the Medical Aptitude Test Scores and the Premedical School average grades. We therefore computed the multipled correlation coefficient which measures the degree of relationship (linear) of the Medical School average grades on the Medical Aptitude Test Scores and the Premedical School average grades. This multiple correlation coefficient was found to be 0.66."

This also shows the higher predictive value of the combined criterion.

STUDY AT EMORY UNIVERSITY.—A study made by Dr. John Venable of Emory University was published in the JOURNAL of the Association, November, 1936. The findings of Dr. Venable are as follows:

"Correlation coefficients have been worked out by Professor M. C. Langhorne of the Department of Psychology at Emory. The Otis correlation chart was used with the following results:

1. Correlation between premedical and aptitude grades, 0.2998 ∓ 0.009.
2. Correlation between premedical and medical grades, 0.3483 ∓ 0.0830.
3. Correlation between aptitude and medical grades, 0.53 ∓ 0.06."

STUDY AT WEST VIRGINIA.—Professor G. S. Dodds[3] reported to the Association at the Syracuse meeting (1939), results of his study of the predictive value of the aptitude test with six classes of students at West Virginia University, namely, the classes entering from 1932 to 1938. Inasmuch as the number of students in each class was somewhat small, there was wide variation in the correlations between the criteria and the grades from year to year. He found, for example, that the aptitude test when correlated with the medical grades varied from .18 to .73. He found also that when the premedical grades were correlated with the medical grades, the correlation varied from .11 to .72, and he concludes—"On the whole, the correlation between aptitude test scores and first year medical grades, and between premedical grades and first year medical grades, was about equal; that is, the predictive value of the test scores and the premedical grades was about equal."

He did not report on the combined criteria, but it is reasonably certain that the combined criteria would have raised the general predictive value and would have reduced variations considerably.

STUDY AT VANDERBILT.—Dr. Beverly Douglas,[4] Assistant Dean, Vanderbilt University School of Medicine, reported on his study extending over nine years' use of the Aptitude Test at Vanderbilt. He sums up his study in the following paragraph:

"In conclusion, while our studies show that premedical grades are not as good a criterion as the Aptitude Test in predicting the success of students at Vanderbilt,

3. J. Ass. Am. Med. Colls., July, 1939.
4. J. Ass. Am. Med. Colls., Nov., 1938.

I feel that they are, nevertheless, valuable and will become more so as colleges improve their courses and grading systems. It is my opinion that in choosing between so many men for so few available places, every criterion which has any predictive value should be taken into account."

"It is perfectly certain that the personal rating forms, premedical grades and Aptitude Test scores, when considered together, will give a more accurate prediction of a man's worth than will any single criterion or any two criteria."

We have made detailed studies each year since the test was started of individual tests and separate items with the view to improving the predictive value of the test. For several years, we attempted to measure more of the cultural background of the students by asking questions on literature, art, history, geography and current events. In general, it was found that the so-called general cultural questions had exceedingly low predictive value whereas questions bearing on the premedical sciences had, as a rule, a satisfactory predictive value. The following is probably the reason: All the students have had the same opportunity to learn the facts on which premedical information was based, whereas the more general background of the students is exceedingly diverse. It is quite conceivable that if all premedical students were required to study Hamlet, questions based on this tragedy would give a better correlation with performance in medical school because we would then be predicting a student's ability to learn in the future in terms of how well he had learned in the past.

There seems to be a growing feeling in the Association that more attention should be given to general culture as opposed to more science subjects, and our Committee has been urged to incorporate more material of a general cultural nature in the test, but at the present stage our results show such low predictive value for such material that the only excuse for including it would be that it might be used as a lever to force the students to take more general cultural courses. If, for example, it were known that each year our test would have one question on Hamlet, I feel certain that all premedical students would read Hamlet before they took the test. However, it is questionable whether that would be the best way to get more attention paid to cultural subjects. It would seem much more logical for the Association to make its premedical requirements much more definite so far as cultural courses are concerned.

It has been suggested that in the last analysis the medical aptitude test is an intelligence test, and that since such is the case it might be just as well to use one of the standard intelligence tests. This is not a general intelligence test. It is a specialized mental alertness test designed specifically for the medical field. It would be just as logical to expect the general practitioner to succeed equally as well as the trained neurologist in diagnosing obscure neurological conditions, as to expect a general intelligence test to predict success in medical school as well as a test designed specifically for making such predictions. That such is not a matter of opinion, has been borne out by a number of studies. For example, at Stanford University a correlation was made between the average grades of the students during the freshman and sophomore years in medical school and their scores on the Thorndike general intelligence test which they had taken prior to entering

the medical school. This gave a correlation of .62, whereas the correlation between the aptitude test and the same two year averages was .64. The George Washington University study shows a correlation between the grades in medical school and grades on Army Alpha, a general intelligence test, prior to entering medical school, of .41. They found a correlation between the aptitude test and grades in medical school of .60.

Difficulties that Tend to Lower the Predictive Value of the Test.—Since 1932, our Committee has found that the general predictive value of the tests given in the various premedical schools is not as high as it was when the tests were given under standard conditions in the medical school. The reasons for this are fairly obvious. It is impossible to get 625 individual examiners in the same number of premedical schools to administer the test under identically standard conditions. In many instances there are indications that the time limits have not been enforced properly. In a few instances there has been evidence that the students were coached, and in at least two schools there was such clear-cut evidence of cheating that the tests were repeated by our Committee with the result that the test scores were lowered from an average percentile of from 80 to 90 to an average percentile of from 25 to 30. Of course, such cases are the exception rather than the rule, and in spite of this difficulty we are getting fair correlations. If it were at all feasible, it would be much better if all premedical students could be tested in certain big centers away from their own premedical schools by paid proctors. If any scheme could be devised whereby students could be tested in the medical schools we believe the correlations would go up 10 or 15 points, but since this is not feasible under the circumstances, we will have to do the best we can with the present situation.

The Test of November 28, 1939.—During last year, 10,459 students in 623 premedical colleges took the medical aptitude test. It will be noted that the number of tests given for the last six years has stabilized around this figure. In other words, we are giving approximately 10,500 tests a year.

Prediction of Medical School Grades (Freshman 1939-40) by Aptitude Test Scores.—Among the detailed studies which were made was one of the predictive value of the test scores made on Form 12 as correlated with the average grades of the 1939-1940 freshman class.

The accompanying chart shows how well the test scores (Form 12) predicted the medical school averages of the 1939-1940 freshman class.[5] It will be noted that, as in past years, there is a steady decline in the average grade from the highest to the lowest tenth and a corresponding increase in the percentage of failures. In the highest tenth only 1 per cent failed and the average grade for the group was 85.3, while 19 per cent of the lowest tenth failed and the freshman average of the group was only 77.6.

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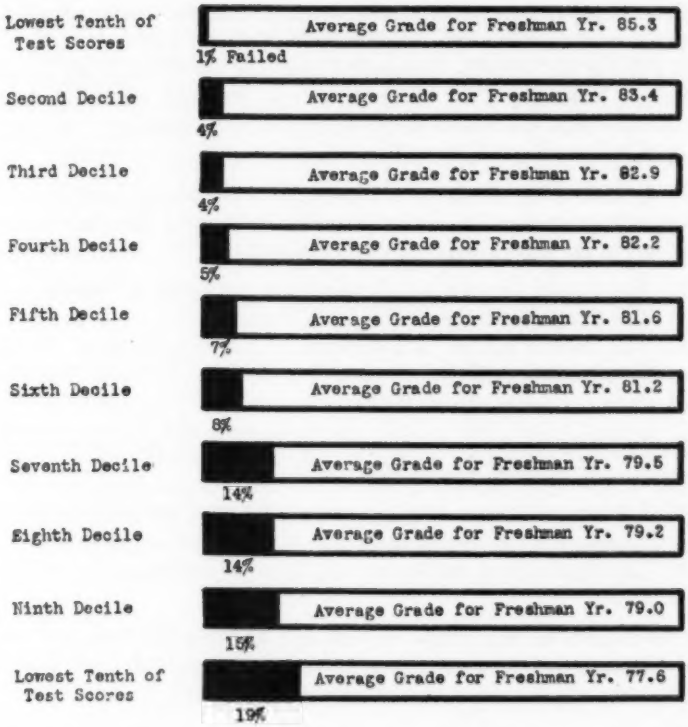
5. The decile ratings are derived from the original aptitude test rating, and represent the student's relative standing among the students in his own medical school class.

STUDY OF SEPARATE PARTS OF FORM 12 AND OF INDIVIDUAL ITEMS WITH A VIEW TO IMPROVING THE TEST IN THE FUTURE.—Continuing studies made in the past of the predictive value of individual items of certain forms of the test, we made a careful analysis of individual questions used in Form 12 this year. This is the Form taken by the 1939-1940 freshman class and is the latest form on which we have medical school averages. The cases for the study were selected in the same manner as were those of the 1937-1938 class on whom we made a



Medical School Performance at Various Test Score Levels—Freshmen, 1939-1940.

similar study last summer. All students in the class whose first year average was 89 or above, or whose average was below 75, who had taken the test in a university having a medical school were selected for the study. The study was limited to students who had taken the test in a school having a medical school in order to simplify the task of assembling the test papers from our files.

In determining whether a question is good or poor we would consider two factors: (1) the difficulty of the question; it must be neither too hard nor too easy. In order to determine this we ascertain the percentage of the total number

of students used who missed each question. (2) The "selective value" of the question. A question is considered good if it differentiates well between the high and low students. A good question would be missed by a small percentage of the high students, a large percentage of the low students. This can be reduced to a numerical basis by taking the ratio of the number in the high group missing the item to the number in the low group missing it. For example, if a question is missed by 12 students in the high group and by 51 in the low group, the high/low ratio (H/L) is 12/51 or .24. The smaller the decimal fraction, the higher the selective value.

We made tabulations of the number of students in the high group and in the low group missing each of the 110 questions of the General Information Test, the 90 items of the Scientific Vocabulary Test, and the 25 questions making up the Logical Reasoning Test. Each paper was examined separately and note made of every item the student answered incorrectly or omitted in each of these three tests.

On the basis of our tabulation of General Information, we found the following General Information items very unsatisfactory because they were missed by approximately the same number in the two groups:

(1) The former German Kaiser belongs to the house of Hapsburg.
(2) The Glacier National Park is in Colorado.
(3) The "Scarlet Letter" is a portrayal of the reign of terror during the French revolution.
(4) Oslo is a large city in Italy.

The following items were missed by more than three times as many of the low group as of the high group:

(1) A zygote is formed from the union of a male and female germ cell.
(2) Proteins are made up of groups of amino acids.
(3) The absorption of food occurs chiefly in the stomach.
(4) $A^6 \div A^2 = A^4$.

If we compare the two groups one will note the thing which we have pointed out in the past—that these good items come from premedical sciences, whereas the poor items are of a more general cultural background.

TABLE 1.—RANGE IN TERMS OF DIFFICULTY OF INDIVIDUAL ITEMS OF 3 TESTS IN FORM 12 OF THE APTITUDE TEST

	Percent of Cases Missing		
	Easiest Item	Hardest Item	Median
1. General Information	1	69	23
2. Scientific Vocabulary	1	68	22
3. Logical Reasoning	4	52	18

Table 1 summarizes the difficulty of the individual items in each of the three tests. This shows the percentage of the combined high and low groups missing the easiest item, the percentage missing the hardest item, and the median percent-

age wrong for all the items in the test. The term "easiest item" refers to the item missed by the fewest number of students; the term "hardest item," to the question missed by the greatest number.

We also tabulated the total scores and the scores on each of the separate tests of both the high and low group. A summary of this tabulation is given in Table 2. In each instance the median score, the upper quartile and the lower quartile of those making high averages in medical school is decidedly higher than that of the lower group.

TABLE 2.—MEDIAN SCORES, Q_3 AND Q_1 ON FORM 12 OF THE MEDICAL APTITUDE TEST OF STUDENTS

Divided into High and Low Groups on the Basis of Freshman Medical Grades

	High Group (Av. 89 and above)			Low Group (Av. below 75)		
Test	Q_3	M	Q_1	Q_3	M	Q_1
1	36.5	33.6	30.1	32.1	29.	24.9
2	25.	22.	15.6	21.6	18.	11.3
3	17.5	14.5	11.	12.	9.2	5.3
4	82.	74.3	67.6	72.3	61.3	51.1
5	46.5	42.6	35.8	35.7	31.	22.9
6	85.1	81.3	75.4	75.4	67.	55.2
7	38.4	32.5	24.5	28.2	19.9	7.7
Total Score	312.3	266.6	294.4	255.9	227.1	191.6

PERCENTAGE OF CLASSES HAVING APTITUDE TEST SCORES.—During the last ten years there has been a steady increase in the percentage of students in the medical schools who have taken the test. In the class of 1931-1932 only two-thirds of the class had taken the test whereas in the class of 1938-1939 90 per cent had test scores, and of the class which entered in the fall of 1939, 91 per cent had taken the test. It would thus appear that an increasing amount of attention is being given to the test by the admission officers of most of the medical schools. In several medical schools 100 per cent of the class had taken the test.

Study of Accomplishment of the 1939-1940 Freshman Class of the Medical Schools of the United States and Canada

Twelfth Study

FRED C. ZAPFFE
Secretary, Association of American Medical Colleges
Chicago, Illinois

The data presented by this study serve as an answer to many questions asked by diverse groups as well as individuals and institutions. They also give the correlations in which educators are interested inasmuch as they serve as a means of evaluating teaching, courses and even the teachers. In order to get out of this study all that it offers, a careful perusal of the tables presented is essential. As an aid to study of these tables, each table will be analyzed and discussed.

COLLEGE DATA

The members of the 1939 freshman class came from 555 colleges and universities. Of this number, 67 (153 students) were not approved by any evaluating agency although their students are admitted to the university of the state in which the individual college is situated. Acceptance of students from nonapproved colleges is permittted by the Association of American Medical Colleges by special provision, namely—they must be accepted by the state university. The number of students coming from these colleges has diminished each year, from 267 (108 colleges) in 1937, to 210 (89 colleges) in 1938 and 153 (67 colleges) in 1939. It would seem that students are inquiring into whether a college is approved or not before seeking admission.

In 1935, 615 colleges were represented by the freshman student body. The number has steadily grown smaller, dropping down to 555 in 1939. Since 1935, the number of matriculants in medical colleges has also grown smaller, from 6,683 to 5,871 in 1939. On the other hand, the number of applicants for admission has remained virtually the same, although the number accepted by medical colleges has become less. Six years ago, 65 per cent of all applicants were accepted; in 1940, 53.3 per cent were accepted. It must, therefore, be assumed that a more careful selection is being made by medical colleges.

ACCOMPLISHMENT OF 1939 FRESHMAN CLASS

Table 1 shows the accomplishment of the whole class, correlated with years of preparation in college. The loss from poor or failing scholarship and withdrawals has become steadily less, from 13.2 per cent in 1936 to 10.3 per cent in 1939, which doubtless reflects the careful selection of students made by the medical colleges.

It is noteworthy that the students with less than three years of college work have the best record in all brackets—the largest percentage of clear records, the lowest percentage of encumbered records and the smallest loss, except for with-

drawals. Many withdrawals are doubtless the result of failing scholarship, therefore, this group of students should, perhaps, not be credited with the fewest losses.

Next to this group for making a good record are the students who had taken at least three years of college work but who did not take sufficient work to merit a degree. Third in line are the A.B. students; fourth, the B.S. students and fifth

TABLE 1. ACCOMPLISHMENT OF ALL STUDENTS—1939 FRESHMAN CLASS

Preparation	Clear		Encumbered		Out		Withdrew		Totals	
	No.	%	No.	%	No.	%	No.	%	No.	%
2-3 years	118	82.0	11	7.6	9	6.2	6	4.1	144	2.4
3-4 years	1333	81.3	166	10.1	106	6.5	34	2.1	1639	27.9
4 or more years	236	68.4	59	17.1	34	9.8	17	4.9	345	5.9
A.B.	1766	79.1	242	10.8	151	6.7	71	3.2	2231	38.0
B.S.	1145	75.9	185	12.2	136	9.0	42	2.8	1512	25.8
Totals	4600	78.4	664	11.3	436	7.4	171	2.9	5871	

the students who had more than four years of college work but who did hold a bachelor's degree. None of the groups had as few encumbered records nor as few failures as the two years group had. Again, as so often before, the B.S. group ranks lower than any other, except the four years group. There were only 144 two year students, 2.4 per cent of the entire freshman class; 28 per cent had three years and 64 per cent held a bachelor's degree. If the number of two year students had been as large as the number of three year and bachelor's degree students, their accomplishment may not have been as good as it was. It is, no doubt, a result of careful selection and an unusually high type of student of more

TABLE 2. ACCOMPLISHMENT OF "OWN" AND "OTHER" STUDENTS: COMPARISON

Preparation		Clear		Encumbered		Out		Withdrew		Totals		Totals All	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
2-3 years	own	65	89.0	5	6.9	1	1.4	2	2.7	73	3.5		
	others	53	74.6	6	8.4	8	11.3	4	5.6	71	1.9	144	2.4
3-4 years	own	853	83.5	84	8.2	63	6.2	21	2.5	1021	48.7		
	others	480	77.6	82	13.3	43	7.0	13	2.1	618	16.4	1639	27.9
4 or more	own	122	71.5	24	14.0	18	10.5	7	4.1	171	8.1		
years	others	114	65.5	35	20.1	16	9.1	10	5.7	174	4.6	345	5.9
	all	236	68.4										
A.B.	own	452	80.0	58	10.3	32	5.7	23	4.0	565	26.9		
	others	1314	78.8	184	11.0	119	7.1	48	2.9	1666	44.2	2231	38.0
B.S.	own	228	84.7	24	8.9	10	3.7	7	2.6	269	12.8		
	others	920	74.1	161	12.9	126	10.1	35	2.8	1243	32.9	1512	25.8
Totals		4600	78.4	664	11.3	436	7.4	171	2.9	5871		5871	

than good scholarship. These figures cannot be accepted as favoring only two years of college work. The three year group may be taken as representative of an adequate preparation for the study of medicine.

All the figures shown in the table are an improvement over the figures for preceding years, again an indication of better selection. In 1938, the three year

students stood first, the two year students second, the A.B.'s third; the B.S.'s fourth; the four year students, fifth.

OWN AND OTHER STUDENTS

For purposes of comparison of the accomplishment of students who attended the medical school of the university in which their preparatory studies were made and those who attended other medical colleges, table 2 is presented. The results are what one would expect them to be. The selection of own students can be made to better advantage than can the selection of students coming from other

TABLE 3. SUMMARY OF ACCOMPLISHMENT OF "OWN" AND "OTHER" STUDENTS

	Clear		Encumbered		Out		Withdrew		
	No.	%	No.	%	No.	%	No.	%	Totals
Own	1720	81.9	195	9.3	124	5.9	60	2.9	2099
Others	2880	76.4	469	12.4	312	8.3	111	2.9	3772

colleges or universities. Their records are more easily understood; the students are well known; conferences can be held with their college teachers; personal interviews are possible; in short, every factor needed for selection is at hand. Therefore, the own students make a better record in all brackets than do the other students. Of the 171 withdrawals, 54 were because of illness; 27 for lack of finances. Ninety students did not give a reason. Probably, the reason in many cases was failing scholarship.

Table 3 presents a summary of the accomplishment of own and other students. It does not call for special comment.

TABLE 4. ACCOMPLISHMENT OF STUDENTS HOLDING MULTIPLE DEGREES

	Clear		Encumbered		Out		Withdrew		
	No.	%	No.	%	No.	%	No.	%	Totals
A.B., A.M.	41	79.0	3	5.8	5	9.6	3	5.8	52
A.B., M. S.	22	71.0	6	19.2	2	6.5	1	3.3	31
A.B., A.M., Ph.D.	6	85.7	1	14.3	....	....	....	....	7
A.B., M.P.H.	1	100.0	....	....	....	....	....	....	1
A.B., M.E.	1	50.0	....	....	1	50.0	....	....	2
A.B., B.S.	9	50.0	4	22.2	5	27.8	....	....	18
A.B., M.S., Ph.D.	3	100.0	....	....	....	....	....	....	3
B.S., M.S.	26	78.8	5	15.2	1	3.0	1	3.0	33
B.S., M.A.	9	81.8	....	....	1	8.1	1	8.1	11
B.S., D.Sc.	1	100.0	....	....	....	....	....	....	1
B.S., M.S., Ph.D.	2	50.0	1	25.0	....	....	1	25.0	4
Totals	121	74.2	20	12.3	15	9.2	7	4.3	163

The proportions of own and other students has remained fairly constant, about 35 per cent of own and 65 per cent of other students.

PREPARATION OF STUDENTS

The amount of college work done by prospective medical students has increased rather rapidly in amount. Two years of college work: In 1937, 6.5 per cent; 1938, 4.4 per cent; 1939, 2.4 per cent. Three years of college work:

In 1937, 32.2 per cent; 1938, 29.2 per cent; 1939, 27.9 per cent. Four or more years (no degree): between 5 and 6 per cent for all three years. A bachelor's degree, or better: In 1937, 55.8 per cent; in 1938, 60.8 per cent; in 1939, 64 per cent.

MULTIPLE DEGREES

The number of students coming to medical college with multiple degrees is increasing steadily. In 1939, there were 163 students in this group. Table 4 shows the accomplishment of these students. Their work does not compare favorably with the work of the class as a whole in any bracket. The reason is not apparent.

TABLE 5. ACCOMPLISHMENT OF WOMEN STUDENTS
TOTAL 311—5.3% OF ALL STUDENTS

Years of Preparation	Totals		Clear		Encumbered		Out		Withdrew	
	No.	%	No.	%	No.	%	No.	%	No.	%
2-3 years	8	2.6	6	75.0	1	12.5	1	12.5	....	....
3-4 years	57	18.4	42	73.7	6	10.5	8	14.0	1	1.8
4 or more years	8	2.6	5	62.5	2	25.0	1	12.5	....	....
A.B.	165	53.2	129	78.2	18	11.0	10	6.0	8	4.9
B.S.	73	23.2	56	76.7	7	9.6	8	11.0	2	2.7
Totals	311		238	76.5	34	11.0	28	9.0	11	3.5
For all Students				73.4		11.3		7.4		2.9
Men only				73.5		11.4		7.4		2.5

WOMEN STUDENTS

Table 5 shows the accomplishment of the women students. They do not quite measure up to the men students.

TABLE 6. CLEAR RECORDS OF WOMEN STUDENTS BY THIRDS OF CLASS

Years of Preparation	No.	Upper %	Middle %	Lower %	Other Data	
2-3 years	6	50.0	16.7	33.3	6 repeaters:	4 clear
3-4 years	42	19.0	47.6	33.4		2 dropped
4 or more years	5	....	60.0	40.0	A.B. M.S.	3
A.B.	129	35.6	37.2	27.2	A.B. A.M.	6
B.S.	56	35.7	37.5	26.8	B.S. M.S.	9
					All clear	18

Table 6 shows their clear records by thirds of the class.

TABLE 7. ACCOMPLISHMENT OF STUDENTS FROM NONAPPROVED COLLEGES

Preparation	Clear		Encumbered		Out		Withdrew		Totals
	No.	%	No.	%	No.	%	No.	%	
2-3 years	5	71.4	1	14.3	1	14.3	....	....	7
3-4 years	44	69.8	12	19.1	7	11.1	....	....	63
4 or more years	6	50.0	5	41.7	....	....	1	8.3	12
A.B.	22	81.5	2	7.4	1*	3.7	2	7.4	27
B.S.	33	78.5	2	4.8	7	16.7	....	....	42
Totals	110	72.8	22	14.6	16	10.6	3	2.0	151

Repeaters: 7
No. Colleges: 67—12.0%
*A.B., B.S.

STUDENTS FROM NONAPPROVED COLLEGES

Table 7 shows the accomplishment of the students coming from nonapproved colleges. Here, again, there is a drop. These students did not do as well as did the students coming from approved colleges. Is preparation responsible? Is the quality of the teachers and their teaching of a lower standard than in the approved colleges? These may or may not be debatable questions. There is a difference in the results in all brackets.

TABLE 8. ACCOMPLISHMENT OF REPEATERS

Years of Preparation	Own (62) No.	Own (62) Record	Others (122) No.	Others (122) Record	Total (184) No.	Total (184) Record	%
2-3 years	10	Cl. 9	11	Cl. 9	21	Cl. 18	86.0
		En. 1		Ot. 2		En. 1	4.7
						Ot. 2	9.3
3-4 years	22	Cl. 17	24	Cl. 14	46	Cl. 31	67.4
		Ot. 5		En. 7		En. 7	15.2
				Ot. 3		Ot. 8	17.4
4 or more years	12	Cl. 11	4	Cl. 2	16	Cl. 13	81.3
		Ot. 1		En. 2		En. 2	12.5
						Ot. 1	6.2
A.B.	11	Cl. 10	45	Cl. 30	56	Cl. 40	71.4
		Ot. 1		En. 6		En. 6	10.7
				Ot. 7		Ot. 8	14.3
				W. 2		W. 2	3.6
B.S.	7	Cl. 4	38	Cl. 27	45	Cl. 31	68.9
		En. 2		En. 1		En. 3	6.6
		W. 1		Ot. 9		Ot. 9	19.3
				W. 1		W. 2	4.4

Summary:			Averages for all Students	
Clear	133	72.2%	Clear	78.4%
Encumbered	19	10.3%	Encumbered	11.3%
Out	28	15.2%	Out	7.4%
Withdrew	4	2.2%	Withdrew	2.9%
Total	184			

REPEATERS

Table 8 shows the accomplishment of the repeaters, both own and other students, and their preparation. There were fewer repeaters than in preceding years. It is getting more difficult for a repeater to be given another chance. Their record, as shown in Table 8, indicates that four out of five succeeding in getting by. Perhaps, that makes it worth while to give that chance.

TABLE 9. ACCOMPLISHMENT OF SOPHOMORES, JUNIORS AND SENIORS

Class	Total No.	Clear %	Encumbered %	Out %	Withdrew %
Sophomore	5847	81.9	14.4	3.0	0.6
Junior	5031	85.1	13.2	1.1	0.5
Senior	5122	97.6	1.8	0.2	0.3

SOPHOMORES, JUNIORS, SENIORS

Table 9 presents the accomplishment of the sophomores, juniors and seniors. It has not varied over a long period of years. The culling out of the undesirables

continues into all years, including the senior year. According to these figures, 16 per cent of the entering class will fail of graduation. This is a smaller percentage than in preceding years. In some years as high as 25 per cent failed to graduate. The quality of medical students is getting better without a doubt—and selection is better than it was.

TABLE 10. DATA ON MATRICULANTS IN ALL CLASSES WHO CONTINUE THEIR STUDIES*

Year	Freshmen	Sophomores	Juniors	Seniors
1936	6072	89.7%	86.3%	84.3%
1937	5994	86.6%	83.9%	
1938	5811	91.9%		
1939	5871			

*Figures for Sophomore, Junior and Senior Classes include Students who repeated and who began study of medicine in years preceding those given in left hand column.

Table 10 gives the percentages of students who carry on into the fourth year. These figures are merely informative. They do not have any special significance.

TABLE 11. CORRELATION OF ACCOMPLISHMENT WITH APTITUDE TEST

Test Percentile	Clear	Encumbered	Out				Withdrew			Totals
			Repeat	Failed	Dropped	Scholarship	Illness	Finance	Other Reasons	
1- 10	202	71	2	5	29	5	7	2	8	331
11- 20	241	78	7	5	28	6	6	1	14	386
21- 30	300	74	3	6	30	7	3	1	5	429
31- 40	371	68	3	9	27	4	6	3	6	497
41- 50	390	59		6	28	3	8	1	9	504
51- 60	436	66	6	5	20	4	5	2	6	550
61- 70	463	59	4	7	27	2	5	1	6	574
71- 80	495	40		4	10	2	2	2	11	566
81- 90	569	41	2	4	9	2	2		7	636
91-100	602	36	1	3	3	1		1	3	650
Totals	4069	592	28	54	211	36	44	14	75	5123
	79.4%	11.5%	6.4%				2.6%			

THE APTITUDE TEST

Table 11 correlates accomplishment with aptitude test ratings. More than 90 per cent of the 1939 freshmen took the test. It is apparent that accomplish-

TABLE 12. ACCOMPLISHMENT OF STUDENTS IN EIGHT MEDICAL SCHOOLS IN CANADA

	First Year		Second Year		Third Year		Fourth Year		Fifth Year		Sixth Year	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Clear	115	60.5	220	74.6	339	75.7	353	80.4	372	86.5	422	93.9
Encumbered	17	8.9	40	16.1	72	16.1	55	12.5	55	12.7	16	4.2
Failed	56	29.5	30	7.6	34	7.6	28	6.4	3	0.7	9	1.5
Withdrew	2	1.1	5	0.6	3	0.6	3	0.7	—	—	2	0.4
Totals	190		295		448		439		430		449—2251	

Graduates of Nine Schools: 554 Women Students: 102

ment correlates well with the test ratings. This test is not used as the sole criterion for admission. Its value is enhanced when correlated with scholarship in college.

CANADIAN MEDICAL SCHOOLS

Table 12 gives the data on accomplishment in eight of the medical schools of Canada. Two schools did not give information.

This study holds greater interest for colleges and universities than it does for the medical schools, although for them it presents the picture for all freshmen in all medical schools. It presents much of interest to educators and supplements the report sent to every arts college each year on the work of their students in medical colleges. Because of lack of space in the JOURNAL, I have refrained from making a more detailed analysis of the data presented. I hope that they are sufficiently clear to be analyzed.

Dr. Hans Zinsser

The late Dr. Zinsser was a most versatile man. Not one of the least of his accomplishments was the ability to give expression to his thoughts in poetic meter. The following is a sonnet he wrote when he knew his days were numbered.

Now is death merciful. He calls me hence
Gently, with friendly soothing of my fears
Of ugly age and feeble impotence
And cruel disintegration of slow years.
Nor does he leap upon me unaware
Like some wild beast that hungers for its prey,
But gives me kindly warning to prepare,
Before I go, to kiss your tears away.
How sweet the summer! And the autumn shone
Late warmth within our hearts as in the sky,
Ripening rich harvest that our love had sown.
How good that 'ere the winter comes, I die!
Then, ageless, in your heart I'll come to rest
Serene and proud, as when you loved me best.

Report on Questionnaire Regarding Cadaver Supply

BURTON D. MYERS
Dean Emeritus, Indiana University School of Medicine
Secretary, Indiana State Anatomical Board
Bloomington, Indiana

On October 8, 1940, I sent a questionnaire to 67 medical schools of the United States and received replies from 54. The following is a copy of the questionnaire:

Indiana University School of Medicine, Bloomington, Indiana, October 8, 1940.
My dear Dean:

With a growing need for anatomical material arising from the provision for dissection by residents and for graduate courses for physicians, we face two threats to our cadaver supply.

The first is the pressure on hospitals for as great a number of autopsies as possible.

The second is the Public Welfare Act, under which, as administered in Indiana, inmates are removed from County Infirmaries, put on relief and provided interment at death.

We are anxious to know if there is detectable any trend toward a diminishing cadaver supply, and I trust you will feel that matter of sufficient concern to all of us to cooperate in determining the facts.

Information you give me will not be given publicity.

I dislike questionnaires as much as you do, but if I put what I wish to know in question form, it will expedite reply.

1. What was the number of cadavers used for your course in gross anatomy in 1939-40?.....
2. How many students were enrolled in your course in dissection in 1939-40?.....
3. What was the total number of cadavers received, by your school for all purposes in 1939-40?.....
4. What was the average number received each year for the past ten years?.....
5. Please give me name and address of the Secretary of your State Anatomical Board. .....
6. Do you note a growing inadequacy of cadaver supply?.....
7. Do you note a growing demand for anatomical material (cadavers)?.....

For the Indiana University School of Medicine the answers to the above are as follows:

1—66. 2—132. 3—104. 4—95. 5—B. D. Myers. 6—No. There is a shift in source of supply. We are worried. 7—Yes.

Very truly yours,

B. D. Myers, Dean Emeritus, Indiana University School of Medicine and
Secretary-Treasurer Indiana State Anatomical Board

The tabulation of replies shows that, for the year 1939-1940 the ratio of students to cadavers was as follows:

In twenty-five of the 54 schools: 2 students to one cadaver
In nine of the 54 schools: 3 students to one cadaver
In twenty of the 54 schools: 4 students to one cadaver

The tabulation shows that 32 of the 54 schools replying show cadaver receipts for 1939-1940 equal to the average for the past ten years. Seventeen of the 54 schools replying show receipts materially below (20 per cent or more) the average for the past ten years. In five of the 54 schools the receipts were far below average for the past ten years, ranging from 25 to 50 per cent of the average for the past ten years.

With reference to a growing inadequacy of cadaver supply:

28 stated they have a growing inadequacy
21 stated they have no growing inadequacy
1 stated they have a steady inadequacy
1 stated they have an occasional inadequacy
3 stated they were worried, that state legislation was pending which they feared would result in inadequacy.

Of those that stated there was no inadequacy:

1 added there was no decrease in number of cadavers, but a decrease in usefulness, by which I think he meant decrease in quality.

1 added—we anticipated and stored up. I would add that if storage is being exhausted, they have a growing inadequacy now.

As to growing demand for anatomical material:

47 schools answered "yes"; 5 schools answered "no"; 2 schools answered "not much change."

Summarizing—one anatomist stated that they use only one cadaver to four students by preference. With 9 schools having available only one cadaver for each 3 students, and with 20 schools having available only one cadaver for each 4 students, it seems obvious that we are entering a period of decreased anatomical supply accompanied by increased demand for anatomical material, chief of which is need of cadavers for graduate courses.

Speaking only as an individual, I believe that perfectly good courses in gross anatomy can be given with a cadaver supply of one cadaver to each 4 freshmen medical students. I would fear the educational effect of the cadaver supply falling below that ratio.

In the letter which accompanied my questionnaire I stated that the chief threat to our anatomical supply is the Public Welfare Act under which certain individuals are removed from public institutions, placed on relief and given interment at death.

Not a single question was raised regarding this view.

Another reason for shortage is that certain states have an anatomical law which permits relatives to claim a pauper body for burial at public expense.

I thank those who cooperated by replying to the questionnaire.

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Aid to National Defense

At a meeting of the Executive Council of the Association of American Medical Colleges held May 30, 1941, three recommendations were adopted.

1. The Executive Council recommends that those schools which can do so, without lowering standards of medical education, increase the enrolment of the 1941 entering class by 10 per cent in order to help meet the medical needs of the present national emergency.

2. The Executive Council recommends that the Association urge every medical college which can do so, without owering standards of medical education, to continue the required medical training of the fourth year during the summer of 1941 in order to graduate at an earlier date as many students as possible.

3. The Executive Council recommends that the Association make a study of the need for and possibility of revising the schedule of instruction in medical colleges with a view to accelerating the output of graduates during the national emergency without any lowering of standards of medical education.

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Announcing Intern Appointments

The Executive Council of the Association of American Medical Colleges has decided again to request hospitals to defer making official announcement of the appointment of interns until November 15th. While it is true that some hospitals which agreed to cooperate in this effort "jumped the gun" by making earlier announcement, the majority of the hospitals which agreed to cooperate lived up to their promise. Therefore, it was deemed worth while to continue to ask approved hospitals to join with the Association in bringing this attempt at uniformity to fruition. Selection of interns may be made at any time but announcement of selection should be made on November 15th. When it is generally understood that this is a universal procedure, one given complete adherence, one of the most vexing problems besetting the internship will have been solved. Inasmuch as the supply of interns cannot possibly meet the demand, (8,000 approved internships; 5,100 graduates) some hospitals will do well to consider accepting paid house officers, perhaps graduates who have served as interns for one or more years.

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British Students in American Medical Colleges

Every medical college has received information from the Rockefeller Foundation regarding its proposal to provide continuing medical education in the medical colleges of the United States for Britishers (only) who are unable to continue their studies in the medical schools of Great Britain because of the war. This opportunity is not extended to Americans who may have been attending medical schools in Great Britain. The Executive Council of the Association of American Medical Colleges is in complete accord with this proposal and hopes that the member colleges of the Association will cooperate by accepting as many of these students as their facilities permit.

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Statistics on Licensure

The *Journal of the American Medical Association,* May 3, 1941, presents the results of its survey of the results of state medical licensing examinations for 1940. This is an excellent summation and offers much material for considera-

tion and study by the executive officers of every medical college in the United States and Canada. The information given cannot be obtained from any other source.

In considering the results of these examinations, it must be borne in mind that one graduate may be responsible for more than one failure to pass an examination. In one instance, reported several years ago, one college was charged with five failures, which gave 20 per cent failures, a not very comforting figure. On investigation, it was found that one man made the five failures, having failed in each of five examinations before as many state boards. Then, too, it is impossible to predict what would have been the fate of a failing candidate if he had taken the examination of some other state boards. The rigidity or severity of the examinations of state boards is of wide variance. This, too, is a factor in interpreting examination results. Therefore, it behooves every medical college to secure the data on its graduates from every board before which they have appeared to secure a license.

The data given show that in 1940 fourteen colleges did not have any of their graduates fail. These fourteen colleges are charged with 636 examinations. The smallest number of examinations was three; the largest, 104. Three colleges, charged with 389 examinations, each had only one failure among 115, 132 and 139 examinations, respectively. Eleven colleges are charged with from 1.0 to 1.9 per cent of failures. These eleven colleges account for 1,059 examinations and fourteen failures; nine colleges had each one failure; one college had two; and one, three failures. The smallest number of examinations per college was 63; the largest, 187; another had 179; five had between 80 and 94 examinations.

The largest number of failures charged to any one colleges was 27.8 per cent out of 36 examinations. Thirteen colleges had more than 10.0 per cent of failures; four of these had more than 20.0 per cent. These thirteen colleges were represented by 902 examinations of which 148 were failures. In summary: from 10.0 to 13.0 per cent, 5 colleges; from 15.9 to 18.7 per cent, 4 colleges; from 20.5 to 27.8 per cent, 4 colleges. The actual number of failures per colleges ranged between 3 and 25, the latter out of a total of 157 examinations.

Out of a total of 5,188 examinations taken by graduates of the medical colleges of the United States, there were 262 failures, or 5.05 per cent. Of the graduates of foreign medical colleges (not including Canada which is not considered to be a foreign country), 54.7 per cent failed (1,144). Of the graduates of unapproved medical schools, 200 failed, or 44.4 per cent. The majority of these failures were reported by the boards of the states of Colorado, New Jersey, Massachusetts and Texas.

The numerous charts and tables forming a part of the report are well worth studying. They present data on state board requirements; basic science boards; distribution of physicians; reciprocal registrations; name and location of foreign medical schools, whence came about 2,000 examinees. For detailed information, the original report should be consulted.

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Correlation of Student Accomplishment

Annually, the arts colleges represented by students in the freshman class of the medical colleges of the United States receive from the Association of American Medical Colleges a report on the accomplishment of their students. The standing of these students in the class as upper, middle and lower third is given and the college is requested to give information on the standing by thirds of their students in college. These two reports are correlated.

As in former years, the result for the 1939-1940 freshman class was the expected one. More than one-half of the students remained in the same classification. The upper third in college had very few failures (not promoted) in medical school, less than 3 per cent; the

middle group had about 7 per cent; the lower group, 25 per cent. It is interesting to note how each college group fared in the medical school. The data on the upper third college group in medical school were: upper, 54 per cent; middle, 29.4 per cent; lower, 16.6 per cent. For the middle college group data are: upper third, 21.2 per cent; middle third, 43.7 per cent; lower third, 35.1 per cent. This seems to indicate that there is a strong tendency for the middle third student to drop into the lower third in medical college. Comparatively only a small number make the upper third.

The lower third college group, as always makes a poor showing. We find that 54.4 per cent of this group remained in the lower third in medical college; 33.1 per cent fell into the middle third; 12.4 per cent made the upper third rating. This is somewhat better than in previous years. In 1937, 8 per cent got into the upper third; in 1938, 11 per cent. Does this mean anything? If it does, it must be the reflection of a better selection of students, although the teaching received in the arts college may have something to do with this result. Be that as it may, however, the lower third group still is a problem. The elimination of students in this group from medical school would lower the mortality of the freshman class considerably.

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Stewart Ralph Roberts

Dr. Stewart Ralph Roberts, professor of clinical medicine in the Emory University School of Medicine and, for more than a quarter of a century, one of the South's leading physicians, died April 14, 1941. Although confined to his home only a few days ago, he had never fully recovered from an illness which began in 1938.

Widely recognized as a diagnostician and a specialist in internal medicine and heart diseases, Dr. Roberts had received some of the highest honors which his profession could bestow. Among these were the presidency of the American Heart Association, of the Southern Medical Association, and of the Fulton County Medical Society. He also had served as a member of the Board of Regents and as vice-president of the American College of Physicians.

During the first world war Dr. Roberts was active in the organization of the Emory Unit, Base Hospital No. 43 and was the first Chief of its medical service. Later he was transferred to Camp Jackson, Columbia, South Carolina, where, as Lt. Colonel, he acted as commanding officer of the camp base hospital.

Dr. Roberts was noted for his talent as a writer and speaker. He was a frequent contributor to medical journals and spoke on medicine, medical history and other subjects in many parts of the country. Several years ago he was a guest lecturer at the Harvard University School of Medicine. The great object of Dr. Roberts' devotion, however, was his Alma Mater, Emory. A graduate of both the college and medical school, he had been associated with the institution throughout his career. Dr. Roberts was at various times a trustee of the old Emory College and of the new Emory University. In 1927, on the twentieth anniversary of his graduation from the college, he was chosen as the University's commencement speaker. A quotation from his address, entitled "Emory's Creed," hangs on the walls of Emory alumni throughout the world. Another widely quoted excerpt from Dr. Roberts' speeches and writings is his "Ideal of Modern Medicine," published in 1916. The closing sentences of this quotation are regarded by many as summarizing his own personal and professional philosophy:

"May I be strong with the weak, righteous with the wicked, wise with the foolish, honest with myself and kind to all men . . . May I take injustice cheerfully, death hopefully, believe victory and defeat equally a part of the larger plan, and rise from both fresh for repeated conflicts. May I remember that I am heir to the same diseases as my patients, must meet the same death, pass with them beyond the River, and may I go with a smile."

Henry K. Mohler

It is with extreme regret that announcement is made of the sudden death, from heart disease, of Dr. Henry K. Mohler, dean of Jefferson Medical College. Dr. Mohler succeeded the late Dr. Ross V. Patterson, in 1938, as dean and Sutherland M. Prevost Professor of Therapeutics. He was also attending physician and physician in charge of the subdepartment of electrocardiology in The Jefferson Medical College Hospital. Dr. Mohler was medical director of the hospital from 1914 to 1938, when he resigned to assume the deanship of the college. He served as chief of the medical service of U. S. Army General Hospital No. 38, in Mantes, France, during World War I.

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The Richmond Meeting of the Association of American Medical Colleges

The 1941 annual meeting of the Association of American Medical Colleges will be held in Richmond, Virginia, October 27-29. The Hotel Jefferson will be headquarters. All the sessions, from 9:30 to 12:30, each day, will be held in the hotel. The "get together" and "become acquainted" dinner, to which every one who is interested in medical education and in the Medical College of Virginia is invited, will be held in the hotel on Monday evening, October 27th. Dr. Wm. T. Sanger, president of the Medical College of Virginia will be the toastmaster. The Executive Session dinner will also be held in the hotel on Tuesday evening, October 28th. The Executive Session will begin at 4 p.m.

The Monday session program will feature topics of interest and importance in connection with the National Defense. Representatives from the Army, Navy and Public Health Service will speak on subjects which, in the present emergency, should be included in the teaching program of medical students to prepare them for special service of which the government has need in its defense program.

At the Tuesday session, members of the faculty of the Medical College of Virginia will participate in a special program.

The Wednesday session will be devoted entirely to medical pedagogy.

The president, Dr. C. W. M. Poynter, dean of the College of Medicine of the University of Nebraska, will deliver his presidential address at 12 noon Monday instead of at the dinner in the evening which has been the custom for many years. This will give opportunity for the president to make definite pronouncements and also afford time for their consideration and possible discussion and action at the executive session held on the following day.

Monday afternoon will be spent in visiting the various departments of the college. Tuesday afternoon will be free so that the delegates can spend the time in whatever manner they choose. A visit to the Confederate Museum will be well worth while. There are many spots of historic interest in Richmond. Detailed information will be given later by the host college.

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Deferment of Premedical Students

It is the opinion of the Executive Council of the Association of American Medical Colleges that deferment should be given to those students who have already been accepted or admitted to the 1941 entering class and that deferment be not requested for students who intend to study medicine in later years.

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Council on Medical Education and Hospitals, A.M.A.

The death of Dr. Fred Moore and the election of Dr. Fred Rankin to the presidency of the American Medical Association, created two vacancies on the Council on Medical Education and Hospitals of the American Medical Association. These vacancies are filled by the election of Dr. Harvey B. Stone, Baltimore, and Dr. Russell L. Haden, Cleveland. The other members of the Council are: Drs. Ray Lyman Wilbur, chairman, Reginald Fitz, Chas G. Heyd, H. G. Weiskotten and John H. Musser. Dr. Wm. Cutter is the secretary.

College News

University of California Medical School

Ceremonies for the laying of the cornerstone of The Langley Porter Clinic were held April 5, 1941. The exercises included addresses by the Honorable Culbert L. Olson, Governor of California, Dr. Robert G. Sproul, President of the University of California and Dr. Langley Porter, Dean Emeritus of the University of California Medical School. Dr. Aaron J. Rosanoff, Director of the Department of Institutions of the State of California was the master of ceremonies. The Langley Porter Clinic, a part of the Department of Institutions, is being constructed at the Medical Center of the University of California. It will have approximately 100 beds and an outpatient department and will be used for the care, study and treatment of acute psychiatric cases.

Dr. George Blumer, David P. Smith Clinical Professor of Medicine at Yale University School of Medicine, was the guest speaker at the Gold Headed Cane Ceremony held in Toland Hall, University of California Hospital, April 14, 1941. A gold headed cane was awarded to Dr. Blumer as well as to Robert H. Crede, a senior student. A cane is given, annually, to the member of the senior class who, in the opinion of his classmates and the staff of the Division of Medicine, has demonstrated the most outstanding qualities of a true physician and who has shown the greatest interest in the care of his patients during his clinical years.

Other recent visitors to the Medical School have included Dr. Ernst Bruecke of the Department of Physiology of Harvard Medical School, who participated in the Medical and Neurological Conferences, and Dr. Arnold C. Belmonte. Dr. Belmonte was on his way to take charge of the surgical work for the Dutch Army in the East Indies. He lectured to the fourth year students, telling them of his surgical experiences as a Chief Surgeon for a Red Cross Unit sent by the Netherlands to Ethiopia several years ago, and, more recently, to Finland.

The Divisions of Medical History and Bibliography held a series of seminars on early medical history of California, including one conducted by Dr. John B. de C. M. Saunders on "Chacon Daza, Author of the Earliest Textbook of Surgery on the North American Continent" and three talks by Mrs. Frances T. Gardner on the following subjects: "Medicine in Spanish California to the Bear Flag Revolt," "Medicine Drenched in Gold Dust" and "Where Are the Sick to Go? A Picture of the Childhood of Some of San Francisco's Hospitals."

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University of Alabama School of Medicine

Students in the School of Medicine of the University of Alabama maintain two loan funds, a fund for the purchase of library material pertaining to medical history, ethics and economics and a fund for the provision of a speaker each year in honor of Dr. William Crawford Gorgas. The Library Fund is known as the Freshman Memorial Library Fund and was established during the session of 1928-1929. Contributions are made voluntarily by practically all members of the freshman class. The Librarian and the Dean, ex-officio, and two members of the faculty administer the Fund. During the past decade, more than 600 volumes have been purchased, the annals of medical history subscribed for and portraits of James Marion Sims, John Y. Bassett and John Wyeth, all famous Alabama physicians, have been secured.

The James Marion Sims Loan Fund was spontaneously founded last year by voluntary subscriptions of the freshman class, varying in amounts from 50c to

$35.00. The present freshman class has followed the procedure established last year. The professor of anatomy and the Dean of the School, with a certified public accountant from the Commerce Faculty, have been named trustees of the Fund.

The other loan fund in the Medical School was established in 1940 by the Sigma Chapter of Phi Beta Pi Medical Fraternity. This Fund is administered by a faculty committee of five, the Dean as ex-officio secretary and treasurer.

In addition, the Alpha Epsilon Delta premedical society sponsors an annual program in association with the Medical School. This society last year also established the A.E.D. Loan Fund with the chapter's faculty advisor, an associate professor of biology, and the Dean of the Medical School, ex-officio, with the same professor of accounting from the School of Commerce as the third member. All three funds are audited by a certified public accountant annually and reports made to the donors.

The Gorgas Medical Society consists of all students in good standing enrolled in the School after the first semester. All members of the society and members of the faculty contribute $1.00 each with which a speaker is secured annually in honor of the birthday of Dr. William Crawford Gorgas of Alabama. This year Professor Anton J. Carlson of Chicago will be the speaker. The Gorgas Medical Society in the School chooses annually a limited number of the sophomore class as Gorgas Fellows. This is the highest honor awarded during the session. Selections are made primarily by the faculty which chooses ordinarily from six to ten men who rate scholastically in the upper third of the class. Each teacher, however, lists the nominees in order of his personal choice, based on his own estimate of each student's character, scholarship, personality and general promise. In a faculty meeting these individual lists are posted and a composite, weighed list of nomineers is prepared and approved by joint faculty action. The names on this weighed list are then submitted as ballots by the faculty advisor to the second year class early in the second semester. By secret ballot all members of the class vote on the faculty nominees. Nominees who receive a two-thirds favorable vote are elected Fellows and the names are published in the School Bulletin. Gorgas Fellows are chosen primarily on scholarship, but secondly by secret choice of both faculty and students for qualities of character, personality and general promise for future usefulness in the profession.

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Western Reserve University School of Medicine

The ninety-eighth annual commencement was held June 11, 1941. Dr. Louis J. Karnosh, associate professor of nervous diseases, delivered the Farewell Address to the graduating class, and the president of the Academy of Medicine welcomed the class into the medical profession. The Hippocratic Oath was read by Dr. Harry Goldblatt, professor of experimental pathology.

Dean Sollmann was reelected chairman of the Council on Pharmacy and Chemistry of the American Medical Association. The Trustees of the University have added the title of professor of pharmacology in the School of Dentistry to Dr. Sollmann.

The 46th Hanna Lecture was delivered in the Institute of Pathology by R. Ruggles Gates, Ph.D., professor of botany in the University of London and director of the Courtald Genetical Laboratory, London. His subject was, "Hereditary Blood Groups in Man."

Dr. Carl J. Wiggers, professor of physiology, was visiting professor at Washington University School of Medicine, St. Louis. He has also been elected secretary of the American Physiological Society.

Since January, the School of Medicine has received grants totalling $53,809 in support of various study projects from nineteen donors. The largest grant, $10,000, came from an anonymous donor for the preclinical departments. A grant of $9,000 annually for three years was

received from the Commonwealth Fund to support research on the mechanism of heart failure by Dr. Wearn. A grant of $6,000 was made by the Carnegie Corporation for the Brush Foundation in support of a study of feebleminded-ness. The Commonwealth Fund also made a grant of $8,700 for the study of blood serum proteins by Dr. Ecker. The Beaumont Trust gave $8,500 for the study of hypertension by Dr. Goldblatt. The Macy Foundation gave $2,000 to support Dr. Goldblatt's work. The John and Mary R. Markle Foundation gave $4,100 to support Dr. Wigger's study of the mechanism of ventricular fibrillation, and $1,500 to support Dr. Johnson's study of riboflavin deficiency.

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Woman's Medical College of Pennsylvania

Dr. Chevalier Jackson resigned as President and Dr. Ellen C. Potter, Director of Medicine of the Department of Institutions and Agencies, Trenton, New Jersey, was appointed Acting President. Dr. Margaret D. Craighill, Acting Dean since September 15, 1940, was appointed Dean.

Dr. Charlotte Silverman, graduate of the College in 1938, has been awarded a Fellowship by the American Association of University Women, entitling her to a year's study in public health, which she will take in the College of Physicians and Surgeons, New York City.

The Committee on Research sponsored a meeting of the Faculty and Alumnae of the College. Reports were presented on research in progress by the members of the Faculty.

Among recent lecturers at the College were Dr. Elise L'Esperance of the Strang Memorial Cancer Clinic, New York, whose topic was "The Treatment of Cancer of the Body of the Uterus;" Dr. Sara M. Jordon of the Lahey Clinic, Boston, who spoke on "Peptic Ulcer;" and Dr. W. C. Alvarez of the Mayo Clinic who lecured under the auspices of the Woman's Medical College chapter of Alpha Omega Alpha on "The Art of Medicine."

University of Pittsburgh School of Medicine

The twenty-fourth Mellon lecture, sponsored by the Society for Biological Research of the School of Medicine of the University of Pittsburgh, was held in the auditorium of the Mellon Institute, May 8. Dr. Carl V. Weller, Professor of Pathology and Director of the Pathological Laboratories at the University of Michigan, discussed "The Inheritance of Retinoblastoma and Its Relationship to Practical Eugenics."

An intensive course in the interpretation of electrocardiograms was given June 23 to 28, inclusive, at St. Francis Hospital, by Dr. A. P. D'Zmura, associate professor of medicine and director of the cardiographic laboratory at the hospital.

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University of Illinois College of Medicine

Beginning with the 1941 graduating class, Illinois goes off the internship requirement for graduation, leaving eleven medical schools which will continue the requirement. One of these, Duke, requires a two year internship for graduation.

Drs. George B. Hassin and I. Diamond, of the neurology department, retire from the faculty at the end of this academic year.

The students of the four classes in the College appointed a curriculum committee which was instructed to consider the present curriculum and to make suggestions as to changes which, in the opinion of the students, will make for better instruction. The committee sent out a questionnaire to every student in the College.

Throughout the 400 questionnaires returned, a definite reaction against purely didactic teaching was manifested and a pronounced desire for earlier contact with clinical material. Significant was the answer to the problem of more clinical presentations in the first two years where a 4 to 1 vote stood as a crticism of the present dissociation of preclinical from clinical years. Even

more significant was the response, for example, to having patients presented during the psychiatry lecture: 287 wanted it, 22 did not. And again, the opportunity to be with patients and to concretize a year's intense reading through practical work experience in hospitals and clinics was supported by 216 students who wanted summer externships: only five did not. In its evaluation of this group of questions the Committee concluded that students want to learn by the association of facts with patients, and that emphasis on "book-larnin'" with a disregard for the highly personal nature of the doctor-patient relationship is a sterile pedagogic technique.

The personal factor arose again in the question on more individual instruction in the Anatomy department where the tally showed 278 in favor against 69, and even more pointed was the response to having small groups discuss the day's dissection with prosectors where 294 approved against 50. The Committee's suggestions for Physical Diagnosis, where the student makes his debut before patients, received almost unanimous approval, only 25 voting against 250 for more group instruction, for more complete examinations and more clinics.

Other proposals on reorganization and more logical union of material which were accepted by large majorities were on combining third year gross with second year histo-pathology, condensing the fundamentals of the first two years of psychiatry, having OB Path taught in conjunction with Gynecology, and introducing mannekin instruction in 3rd year OB. 245 students acquiesced in the Committee's contention that time should be set aside for attendance at autopsies, 24 dissenting, while an equally large number objected to cutting classes to attend posts. Holding the clinical path conference during a free hour for the sophomores, juniors and seniors received a quiet acceptance of 265 to 4.

Satisfaction with the present clerkships was equivocal, but the proposal for an 8-hour clerkship was preferred by 117 to 42, and 155 to 7 wanted more bed-side teaching on the clerkship. Nearly 3 to 1 considered the operative clinics time-wasting, reaffirming the Committee's position that some aspects of medicine can only be taught by practical participation.

Courses to be added were Contraception (204 to 11), First Aid (219 to 15), elective in Dog surgery (187 to 15); History of Medicine and Social Medicine were frequent write-ins. Courses to be dropped were few and not generally upheld.

A large number voted to continue the quizzes, but an equally numerous group, 220 to 109, wanted a ten-minute written quiz followed by a conference. The Curriculum Committee analyzing the methods of conducting quiz sections considered those most effective where patients illustrating the day's assignment are brought in and the group as a whole participated in examining them and in formal discussion. Disapproval of the present grading system was indicated by 270 to 50, an equal number preferring "satisfactory or unsatisfactory" as an adequate substitute. 280 to 40 wanted numbers instead of names on examination papers. A large majority agreed that personal factors in grading are present.

Appointment of interested faculty members as student advisers won favor from 223, with only 15 opposed to the preceptor system. Pointed comment on the standard of lectures, 218 thought they could be better prepared with only 18 indicating they were satisfied. Syllabi for all courses in the curriculum were considered necessary by 192, 45 did not.

After reviewing the tabulated results of the Questionnaire, the Curriculum Committee found that opinion on some questions were highly divergent, but that on others sentiment was clearly and strongly in support of the suggested changes. The Committee now plans to bring this expression of student sentiment to the Faculty Curriculum Committee, asking that a joint conference between the two Curriculum Committees be called.

Dr. Francis J. Gerty, professor of Neuropsychiatry in Loyola University School of Medicine, has been appointed professor and head of the department of psychiatry. Dr. Gerty has been medical director of the Cook County Psychopathic Hospital since 1922.

Dr. Paul L. Schoeder, head and professor of the department of criminology, social hygiene and medical jurisprudence, University of Illinois, will take charge of the child psychiatry division in the new Neuropsychiatric Institute.

Two great moves to broaden the University's teaching and research in medicine and kindred fields will be made as soon as details can be worked out — probably this summer.

(1) The new $1,600,000 Neuro-Psychiatric institute built by the State Department of Public Welfare will be opened; and (2) Rush Medical college, which has some of the finest traditions in the country, will merge with the U. of I., bringing Presbyterian hospital and its staff under the latter's influence.

Rush Medical College, which has been a part of the University of Chicago for 43 years, has asked the attorney general of the State of Illinois to dissolve the tie preparatory to affiliation with Illinois. The old Rush name will be continued; staff members will be known as Rush professors in the University of Illinois.

The Central Free dispensary maintained in connection with Presbyterian hospital is a separate agency in which U. of I. medics will practice when the arrangements have been completed.

Rush present juniors and seniors will continue as students in that college and will become University of Chicago graduates.

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Yale University
School of Medicine

The dedication ceremonies of the Yale Medical Library were held June 15. The building, which has accommodations for 400,000 volumes, is an extension of the Sterling Hall of Medicine. One wing is devoted to the general medical library and the other to the historical library. Each wing opens off a rotunda which is dedicated to the late Dr. Harvey Cushing, 1891, former Sterling Professor of Neurology in the Yale School of Medicine. Dr. Cushing left his entire medical library of 15,000 volumes, which includes 165 incunabula, to form a nucleus for the historical library. Other distinguished collections which have joined Dr. Cushing's books are those of Dr. John F. Fulton, Sterling Professor of Physiology; Dr. Edward C. Streeter, of Stonington; Dr. George M. Smith, Research Associate in Anatomy; Dr. Clements C. Fry, Lecturer in Psychiatry and Mental Hygiene; Dr. George Blumer, David P. Smith Clinical Professor of Medicine, Emeritus; and the late Sterling Professor of Physiology, Dr. J. G. Dusser de Barenne. The large 15th century medical and scientific library of Dr. Arnold C. Klebs, of Nyon, Switzerland, will be added later.

Wilmarth S. Lewis, of Farmington, Chairman of the Yale Corporation's Committee on the Library and Museums, presided at the dedication exercises. Starling W. Childs, of Norfolk, of the class of 1891, presented the memorial gift for the class. President Charles Seymour accepted on behalf of the University and presented the keys of the building to Dean Francis G. Blake of the School of Medicine. The principal address was given by Dr. John Homans of Boston.

The annual meeting of the Association of Yale Alumni in Medicine took place in the auditorium of the Brady Memorial Laboratory June 15. The speakers were: Dr. George F. Cahill, of New York City, president of the organization; Dean Francis G. Blake, of the School of Medicine; and Horace T. Gardner, Jr., of Albuquerque, N. M., who is a candidate for the M.D. this June.

The annual Commencement Exercises, at which graduate and honorary degrees were conferred by President Charles Seymour, were held June 18th.

Dr. George H. Smith, assistant dean and professor of immunology, will succeed Dr. Stanhope Bayne-Jones as a member of the National Board of Medical Examiners representing the Association of American Medical Colleges. Drs. A. Graeme Mitchell and Maurice H. Rees are the other two representatives of the Association on the National Board.

Dr. Rudolf Schoenheimer, Associate Professor of Biochemistry, College of Physicians and Surgeons, Columbia University, gave the annual Alpha Omega Alpha lecture in the Brady Memorial Laboratory of the Yale School of Medicine. His subject was "The State of the Structural Elements of Life."

The Warren Prize for 1940 has been awarded to Drs. Hebbel E. Hoff and Louis H. Nahum, associate professor of physiology and research associate in physiology, respectively, for a paper on the mechanism of the electrocardiograph. The award of $500 is presented "for the best dissertation, considered worthy of a premium, on some subject in physiology, surgery, or pathological anatomy."

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Louisiana State University
School of Medicine

The George S. Bel Memorial Award, established by Mrs. George S. Bel in memory of her husband and given for the first time in 1940, has been presented this year to Dr. Spurgeon M. Wingo, who was graduated from the L. S. U. School of Medicine June 2, 1941. Dr. Bel was Director of the Department of Medicine at L. S. U. from the founding of the School until his death in 1939.

The prize, which is in the sum of $50, is presented annually to the fourth year student who "symbolizes the highest ideals of medicine," as demonstrated by "scientific interest, ethics, personality, tact, bedside manner, ability to handle people, kindness to patients, clinical ability and an aim to serve humanity rather than mercenary ambitions." The winning student is selected from the ten high ranking fourth year students by a representative committee of the faculty, headed by the Dean and the chairman of the executive committee.

Dr. Wingo received the B.A. degree at Louisiana College and the M.S. degree from the University of Tennessee. He is a member of the Circle, the L. S. U. honorary student society, and was associate editor and later editor of the school paper. He is a resident of New Orleans and will serve his internship in the U. S. Marine Hospital at New Orleans.

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University of Colorado
School of Medicine

The third annual Nu Sigma Nu Lecture was given April 21 by Dr. Bradley M. Patten, Professor and Head of the Department of Anatomy at the University of Michigan Medical School. Dr. Patten's talk on "Micro-Moving Picture of the Early Development of the Cardiovascular System in Living Embryos" was well received by a large audience.

Dr. and Mrs. Patten and several faculty men were dinner guests at the Nu Sigma Nu House before the lecture while open house, with refreshments, was held for Dr. Patten and the audience later in the evening.

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University of Pennsylvania
School of Medicine

At the thirty-third annual meeting of the Undergraduate Medical Association of the University of Pennsylvania, held April 24, 1941, addresses were delivered by Dr. John H. Stokes, Dr. C. P. Rhoads and Dr. A. Baird Hastings. Many excellent papers were read by members of the student body. The Dean, Dr. William Pepper, presented the prizes: Mary Ellis Bell prize to Christian J. Lambertsen, class of 1943; John G. Clark prize to J. C. Lilly, class of 1942; Grahye Simpson Priestly prize to Martin G. Netsky, class of 1943. Miss Lillian M. Panzer, class of 1944, received honorable mention.

Dr. Robin C. Buerki, director of the Wisconsin General Hospital, Madison, will become dean of the Graduate School of Medicine of the University of Pennsylvania, October 1, 1941, and Director of Hospitals, a newly created post in which he will have direction over the University Hospital, the Graduate Hospital and the Orthopedic Hospital.

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Northwestern University
Medical School

Dr. Irving S. Cutter, dean since 1925, will retire September 1, 1941. His successor will be Dr. James Roscoe Miller, assistant dean since 1933 and associate professor of medicine. Dr. Cutter will continue as superintendent of Passavant Hospital.

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Ohio State University
College of Medicine

On the eve of his retirement from the deanship, a dinner was given June 6th in honor of Dr. J. H. J. Upham by the faculty in appreciation of his long service to the college with which he became connected in 1897. Dr. Upham has held many positions of honor and trust, including membership on the state licensing board, the presidency of the American Medical Association and membership on its Judicial Council and Board of Trustees.

Dr. Hardy A. Kemp, dean and professor of public health and preventive medicine in the University of Vermont College of Medicine, has been chosen to succeed Dr. Upham as dean and director of the University Hospital, effective September 1, 1941.

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University of North Carolina
School of Medicine

Dr. Wm. deB. MacNider, Keenan Research Professor in Pharmacology, and former dean, was awarded the Kober medal for 1941 by the Association of American Physicians for his contribution to the progress and achievement of the medical sciences and preventive medicine.

University of Rochester
School of Medicine

The department of urology is to receive about $1,200,000 from the estate of the late Dr. Henry C. Buswell, at one time associate professor of medicine at the University of Buffalo. The estate is set up in trust funds for Dr. Buswell's widow and two sisters and on their deaths will revert to the university.

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Washington University
School of Medicine

The sixth Leo Loeb Lecture under the annual lectureship which has been established by the Mu Chapter of the Phi Beta Pi Medical Fraternity, was delivered by Dr. George W. Corner of the Carnegie Institute of Washington.

The subject of his address was "The Ovarian Cycle."

Dr. Evarts Graham, professor and head of the department of surgery, has been elected a member of the Royal Society of Science of Upsala, Sweden.

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University of Kansas
School of Medicine

The eleventh course of three lectures under the Porter Lectureship in Medicine was delivered by Dr. Frederick A. Coller, professor of surgery in the University of Michigan Medical School. His subjects were: "The role of fascia in the spread of infection;" "The historical relation of medicine and surgery" and "The treatment of wounds with special reference to those produced by war."

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University of Minnesota
Medical School

The John Scott Medal, given by the city of Philadelphia for outstanding achievement in medical science, has been awarded to Dr. Owen H. Wangensteen, professor and head of the department of surgery. The award, which also includes a cash gift of $1,000, was made for Dr. Wangensteen's development of a suction siphonage treatment of acute intestinal obstruction.

Meharry Medical College

The children on Pediatrics are having a grand time in their Recreation Room which has recently been equipped by the Alpha Beta Chapter of the National Teachers' Sorority of Phi Delta Kappa. The floor is partially covered with a linoleum rug which has some appeal for children of various ages, for on it are sections containing numbers for children who like arithmetic and other sections containing nursery rhymes and appropriate pictures illustrating each rhyme. There are tables and chairs made especially for children, different sizes of rubber balls, dishes, spoons, stuffed toys, facilities for some art work, and story books for the young and older children. At Easter each child was given a basket containing Easter eggs and chickens.

The Department of Pediatrics is fortunate in finding some girls on the NYA Project who have had experience in supervision of play to place in charge of the Play Room.

Recent visitors to the College were: Dr. R. L. Sanders, professor of surgery in the University of Tennessee; Dr. Howard Gray of the Mayo Clinic and Dr. F. H. Lahey of the Lahey Clinic. They spoke, respectively, on "Gallstones," "Carcinoma of the Stomach" and "Diagnosis and Surgical Treatment of Thyroid Disease."

The success of the Nashville Campaign for Endowment in the sum of $100,000 was given a splendid and most gratifying beginning when the Negro Division raised in pledges and cash $17,283 on a quota of $15,000.

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University of Virginia
Department of Medicine

Dr. Edwin P. Lehman participated in a Postgraduate Course in Surgery conducted in Waycross, Georgia. Dr. D. C. Smith attended the meeting of the American Dermatological Association in New Orleans and on April 10th presented a paper on "Acanthosis Nigricans." On April 15th, Dr. Sydney W. Britton gave a lecture before the Staff and Graduate School of Iowa State College at Ames, Iowa. He spoke on "Form and Function in Primitive Mammals."

At the meeting of the American Physiological Society held in Chicago, April 18th, Drs. E. L. Corey and S. W. Britton presented a paper entitled "The Antagonistic Action of Desoxycorticosterone and the Antidiuretic Principle of the Posterior Pituitary Gland." Dr. Lawrence T. Royster attended the Region No. 2 meeting of the American Academy of Pediatrics in Richmond and on April 25th gave a broadcast on "The Importance of Periodic Examination of Children." Dr. John M. Meredith attended the meeting of the American Society of Neurological Surgeons in Richmond on May 1st and 2nd and read a paper on "Experimental Head Injuries."

At the meetings of the Virginia Academy of Science held in Richmond on May 1st to 3rd, the following members of the Faculty of the Department of Medicine of the University of Virginia presented papers: "The Synchronization of Cerebro-Cortical Potentials," by Dr. Charlton Gilmore Holland, Jr.; "Study of a Case of Osteosclerosis with Myeloid Leukemia, with Special reference to the Extensive Extramedullary Blood Formation," by Drs. H. E. Jordan and James K. Scott; "Autopassive Local Sensitization and Desensitization," by Drs. Oscar Swineford, Jr. and W. Roy Mason, Jr.; "Chemistry and Sulfonamide Drugs," by Dr. Alfred Chanutin; "Heparin and Peritoneal Adhesions," by Dr. Floyd Boys; and "An Analysis of Hormonal Influences on Fluid Balance," by Drs. S. W. Britton and E. L. Corey.

Dr. Charlton Gilmore Holland, Jr., attended the organization meeting of the American Federation for Clinical Research in Atlantic City on May 5th and discussed his work on "Electroencephalographic Studies in Myoclonia." May 6th, Drs. J. Edwin Wood, James K. Scott and John L. Guerrant presented a paper on "Further Observations on Blood Pressure, Weight and Diet in

Normal Hypertensive Dogs," at the meeting of the Association of American Physicians. Drs. George C. Ham and Eugene M. Landis attended the meeting of the American Society for Clinical Investigation in Atlantic City and read a paper on "A Comparison of Pituitrin and Antidiuretic Substance in Human Urine and Placents."

The Department of Physiology was awarded a research grant of $2,000 by the Committee on Research in Endocrinology of the National Research Council, for investigations on the function of the adrenal under the direction of Dr. Sydney W. Britton.

At the meeting of the West Virginia State Medical Association held in Charleston, May 14th, Dr. T. J. Williams spoke on "The Management of the Toxemias of Late Pregnancy." May 15th, he addressed the West Virginia Obstetrical and Gynecological Society on the subject, "Experience in Postpartum Sterilization." May 1st, Dr. T. J. Williams participated in the Postgraduate Course in Medicine and Surgery for the Loudoun County Medical Society conducted under the auspices of the Department of Clinical and Medical Education of the Medical Society of Virginia. His subject was "Toxemias of Pregnancy." May 15th, Dr. H. B. Mulholland discussed "The Newer Phases of Pneumonia Treatment." At the meeting of the American Psychiatric Association held in Richmond, May 5th, Drs. David C. Wilson and Charlton Gilmore Holland, Jr., presented a joint paper on "Electroencephalographic Studies in Myoclonia."

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Columbia University
College of Physicians and Surgeons

Philip E. Smith, Ph.D., professor of anatomy was presented with the annual Squibb Award during the session of the Association for the Study of Internal Secretions in Atlantic City, May 2-3. The award is given annually by E. R. Squibb and Sons to a "distinguished contributor to the field of endocrinology."

Johns Hopkins University
School of Medicine

Dr. Joseph T. Wearn, professor of medicine, Western Reserve University School of Medicine, Cleveland, presented two addresses under the William Sydney Thayer and Susan Read Thayer Lectureship in Clinical Medicine recently. His lectures were entitled "Observations on the Morphology and Functions of Some of the Components of the Coronary Circuit" and "Alterations in the Heart Accompanying Growth and Hypertrophy."

Dr. Charles D. Snyder, professor of experimental physiology, gave an address before the National Gastroenterological Association, May 15, on "Recent advances in the physiology of the Liver and their challenge to the experimental physiologist."

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Medical College of Virginia

Mr. George W. Bakeman, who has been in charge of the Paris office of the Rockefeller Foundation for a number years, has been appointed assistant to the President.

Commencement exercises closing the one hundred third session of the college were held June 3, 1941. There were seventy-four graduates in medicine.

Dr. Theodore Meyer Greene, McCosh Professor of Philosophy, Princeton University, delivered the Commencement address.

The Commencement sermon was given by Dr. Vincent C. Franks, Pastor, Saint Paul's Church, Richmond.

A bronze tablet commemorating the service of Base Hospital No. 45, known as the McGuire Unit, in France during World War I was recently presented to the College by the Base Hospital No. 45 Veterans' Association. Dr. William Lowndes Peple made the presentation on behalf of Dr. Stuart McGuire, Richmond, commander of the unit, who was ill, to William T. Sanger, L.H.D., president of the college. The tablet was unveiled by Lockhart Bemis McGuire, a great-nephew of Dr. McGuire.

The General Education Board has made a grant of $168,000 for the further development of the Saint Philip School of Nursing, the unit of the Medical College of Virginia separately organized for the education of Negro nurses. The grant will add and furnish approximately seventy-four rooms in the nurses' residence, Saint Philip Hall, and it will substantially enlarge the library and teaching unit. The estimated cost of this part of the new development is $130,000. The grant also provides $38,000, over a six-year period, on a decreasing basis biennially for substantially strengthening the teaching program, especially the clinical offerings.

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Mayo Foundation

Dr. Edward D. Churchill, John Homans professor of surgery at Harvard Medical School and Harvard Graduate School, Boston, gave a Mayo Foundation lecture May 22. His subject was "Primary carcinoma of the lung."

Dr. Frederick A. Coller, professor of surgery at the University of Michigan Medical School, Ann Arbor, gave a Mayo Foundation lecture May 23. His subject was "Studies in water and electrolyte balance."

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Harvard Medical School

Dr. Henry K. Beecher, associate in anesthesia has been appointed professor to fill the Dr. Henry Isiah Dorr Chair of Research and Teaching in Anesthetics and Anesthesia. Dr. Beecher will give a series of lectures on the pharmacology of anesthesia and its clinical applications at the National University of Colombia at Bogotá, during the latter part of June and early July. Dr. Beecher's lecture course has been arranged as a result of a desire expressed by the Faculty of Medicine of the National University of Colombia to have a physician versed in the subject of the pharmacology of anesthesia give a course at that University. His visit to Colombia has been made possible through a travel grant awarded to him by the U. S. Department of State.

Vanderbilt University
School of Medicine

The Alpha Kappa Kappa fraternity has established an annual lectureship in memory of the late Dr. William D. Haggard, professor of surgery and clinical surgery at the school for many years before his death, Jan. 28, 1940. The first lecture was delivered by Dr. Mont R. Reid, Christian R. Holmes professor of surgery at the University of Cincinnati College of Medicine, on "Experiences in Vascular Surgery."

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University of Western Ontario

The recently constructed extensive addition to the Victoria Hospital, London, Ontario, was formally opened on May 26th by Dr. Leonard G. Rowntree, Director of the Philadelphia Institute for Medical Research. As well as providing adequate clinical facilities, the new building contains modern laboratories for teaching and research in pathology, bacteriology and clinical pathology, a result of the generosity and foresight of the late Dr. Harry Meek.

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University of Toronto
Faculty of Medicine

Medals, prizes, fellowships, scholarships and bursaries were awarded by the Senate of the University to the following:

Sixth year: Faculty Gold Medal, Ellen Mickle Fellowship, William John Hendry Memorial Scholarship in Obstetrics and Gynecology—J. G. Watt; Chappel Prize in Clinical Surgery—W. E. Ortved; Ontario Medical Association Prize in Preventive Medicine—I. P. Weingarten.

Undergraduate: David Dunlap Memorial Scholarships: (a) Fifth Year—H. H. Fireman. (b) Third Year—Miss M. J. Forgie. (c) Special Third Year—F. W. Hanley. Ronald S. Saddington Medal in Pathology—B. A. McMaster; E. W. Nancekivel. James H. Richardson Research Fellowship in Anatomy—Miss V. Ryder. John

Copp Bursary — J. F. Murry. B'nai B'rith Scholarship—J. P. G. Maroosis. Baptie Scholarship—W. B. Arnup.

Graduate: Reeve Prize—J. C. Richardson, M.D., M.R.C.P. (Lond.); Faulkner Medal in Psychiatry—E. S. Goddard, M.D.; J. J. MacKenzie Fellowship in Pathology and Bacteriology—S. M. Hudecki, M.D.; Lister Prize in Surgery, F. H. Cote, M.D.

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Emory University
School of Medicine

Dr. Evangeline Papageorge, assistant professor of biochemistry has been awarded the Sterling Fellowship in biochemistry at Yale University for next year.

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Jefferson Medical College

Dr. Randle C. Rosenberger, professor of preventive medicine and bacteriology, will serve as acting dean until the successor to the late Dr. Henry K. Mohler, is chosen.

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Jefferson Medical College

The 116th Annual Commencement was held June 6, 1941. The Commencement address was delivered by Dr. J. M. T. Finney, Emeritus Professor of Surgery, Johns Hopkins Medical School, on "The True Province of the Doctor."

The Graduating Class numbered 120, bringing the total number of graduates to 16,814. The graduates represented eighteen different states, the Territory of Hawaii and Puerto Rico, Korea and Iran. Forty-three members of the Graduating Class were commissioned as First Lieutenants in the Medical Reserve Corps of the United States Army.

The honorary degree of Doctor of Letters was conferred upon John Miller Turpin Finney, M.D., LL.D., Emeritus Professor of Surgery, Johns Hopkins Medical School.

Promotions: Dr. Lewis C. Scheffey, professor of gynecology; Dr. John B. Montgomery, clinical professor of gynecology; Dr. Burgess L. Gordon, clinical professor of medicine; Dr. Austin T. Smith, associate professor of laryngology; Dr. Andrew Ramsay, associate professor of histology and embryology; Dr. Leandro M. Tocantins, and Dr. Franklin R. Miller, associate professor of medicine; Dr. William T. Lemmon, assistant professor of surgery: Dr. C. Calvin Fox, assistant professor in laryngology.

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University of Oregon
Medical School

Dr. A. J. Carlson, emeritus professor of physiology in the University of Chicago, delivered the commencement address. His subject was: "A New Frontier in Medicine: The Problem of Subclinical Diseases."

The honorary degree of Doctor of Science was conferred by President Donald W. Erb to Drs. John E. Weeks and Albert E. Mackay, of Portland, for long and distinguished service to the School and in the practice of medicine. Dr. Weeks is honorary professor of ophthalmology and Dr. Mackay is emeritus professor of urology.

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University of Vermont
College of Medicine

Dr. Hardy A. Kemp, dean and professor of preventive medicine and public health, has been appointed dean of the Ohio State University College of Medicine and director of the University Hospital, effective September 1, 1941.

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University of Cincinnati
College of Medicine

Dr. A. Graeme Mitchell, Rachford Professor of Pediatrics and Director of the Children's Hospital, died suddenly June 1st aged 52. Dr. Mitchell was also a representative of the Association of American Medical Colleges on the National Board of Medical Examiners.

General News

Medicine

Under this title, Dr. Dwight O'Hara, professor of preventive medicine and vice dean of Tufts College Medical School, has written an informative monograph for prospective medical students and graduates. He gives good advice and points out pitfalls. The summary of entrance requirements, length of courses and fees is good to have handy because questions bearing on these points are asked often. The monograph is one of a series published by the Bellman Publishing Company, Inc., 6 Park Street, Boston, Massachusetts. The price is 50 cents.

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Dawn Society

A novel organization, the Dawn Society, has just been formed of persons who pledged their eyes at death to give sight to the living blind. As a result, it is hoped doctors will have enough cornea tissue from healthy eyes blind because of damaged corneas. Doctors have been successful in grafting corneas from one eye to another in recent years, but have been hampered by lack of healthy tissue for the operation.

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Pioneers of American Medicine

Unveiling of the third large canvas in the famous series, "Pioneers of American Medicine," depicting outstanding personalities and events in the history of American medicine, took place June 2, in Cleveland, at the American Medical Association convention.

The painting, by Dean Cornwell, muralist and illustrator, shows Major Walter Reed and Dr. Carlos Finlay, conquerors of yellow fever, surrounded by such figures as Major General Wood, Drs. Lazear, Carroll and Agramonte and John R. Kissinger, first volunteer soldier to be inoculated in the yellow fever experiments.

Miss Blossom Reed, daughter of Major Walter Reed, performed the unveiling at a special ceremony.

The entire series of paintings will take between ten and fifteen years to complete, one painting being done a year. Finished paintings are loaned to medical schools and medical societies. The first two were "Beaumont and St. Martin," and "Osler at Old Blockley."

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Rockefeller Foundation

War is crippling much of the work in foreign scientific laboratories supported by the Rockefeller Foundation, and has totally wiped out some of the institutions where it was being done. The Foundation has closed its Paris office, and moved its Shanghai office to Manila; it has recalled personnel from Egypt, Turkey, Rumania, and Hungary.

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Doctors for Britain

At least a thousand of America's younger physicians, have responded to a call for help from the British Red Cross. These American medical volunteers will for the most part serve with the Royal Army Medical Corps as medical officers, although some will be enrolled in the British Emergency Medical Service, a civilian service. In either service they will not forfeit American citizenship as they will not take the British oath of allegiance.

Although the RAMC volunteers, commissioned as lieutenants, will be uniformed and be a part of the military service, they will be enrolled by the British Red Cross and will work under the protection of the Red Cross Treaty of Geneva, a covenant respected by belligerents since 1864.

President Roosevelt in his capacity as president of the American Red Cross has approved this volunteering. Joining the

American Red Cross in the recruiting are the National Research Council's division of medical sciences, the American Medical Association, the American College of Surgeons and American College of Physicians. The three U. S. Surgeons General, of the Army, Navy and the Public Health Service, have approved encouragement of doctors volunteering for British medical service.

The upper age limit for service in the Royal Army Medical Corps is 40 years, while physicians up to age 45 will be accepted for the Emergency Medical Service. All must be approved medical school graduates, with at least one year of hospital training for RAMC service and at least five and not more than ten years of practice for EMS service. Volunteers will serve for at least a year.

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American College of Physicians

The twenty-sixth annual meeting of the College will be held in St. Paul, Minnesota, April 20-24, 1942.

Dr. Roger I. Lee, of Boston, is president of the College, and will be in charge of the program. Dr. John A. Lepak, of St. Paul, has been appointed general chairman, and will be in charge of the program of Hospital Clinics and Round Table Discussions, as well as local arrangements, entertainment, etc. Mr. Edward R. Loveland, Executive Secretary of the College, 4200 Pine Street, Philadelphia, will have charge of the general management of the session and the technical exhibits.

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The Seymour Haden Society

The Seymour Haden Society recently held its tenth annual exhibition at the University of Pennsylvania School of Medicine. Among the exhibitors were Drs. Isolde T. Zeckwer, Morton McCutcheon, Dale R. Coman and William G. Turnbull. The society was founded by Dr. Edward B. Krumbhaar, professor of pathology. At first the exhibitors were six members of the department of pathology; now members of other departments in the medical school and Philadelphia physicians not connected with the university participate. Originally etchings predominated in the exhibits, but this year oils and sculpture were most numerous.

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Fluoroscence Microscopy of Tubercle Bacillus

The Spencer Lens Company, Buffalo, N. Y., is prepared to furnish the fluorescence accessories needed for the identification of *M. tuberculosis* in sputum and body fluids. The method and equipment were developed and tested in the laboratories of their research department and were first applied at the Meyer Memorial Hospital in Buffalo. Studies were also made in the Cattaragus County Laboratories, Olean, New York.

The Spencer improved equipment makes the method available with any monocular microscope but only with materials whose fluorescence will be excited by ultraviolet light and will pass through the yellow filter to the eye. It represents the simplest and least expensive type of fluorescence microscope. The accessories consist of (1) universal microscope lamp; (2) yellow filter of proper size to fit within the eyepiece; (3) aluminized front surface mirror in mount to fit over the microscope mirror; (4) blue ultraviolet transmitting filter to fit the lamp.

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Dartmouth College

From the unusual will of the late Emil Bommer, Brooklyn manufacturer, Dartmouth College has recently received a $500,000 endowment fund. The will stipulates that the fund must be used for the education of male students only. Other terms of the bequest state that it cannot be used for the "so-called dead languages" or for the maintenance of competitive athletics.

Book News

Lectures on Diseases of Children

By Sir Robert Hutchison, M.D., Consulting Physician to the Hospital for Sick Children, London, and Alan Moncrieff, M.D., Physician to Middlesex Hospital, Hospital for Sick Children, etc. 8th Ed. A William Wood Book: The Williams & Wilkins Company, Baltimore. 1941. Price, $6.75.

A complete revision of a well known book. A book which survives seven editions must be good.

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The Story of Clinical Pulmonary Tuberculosis

By Lawrason Brown, M.D., Late Director of Trudeau Sanatorium. The Williams & Wilkins Company, Baltimore. 1941. Price, $2.75.

This is the story of clinical pulmonary tuberculosis as told to his students by one of America's foremost specialists, edited from notes left at the time of his death and supplemented by his friends and collaborators in the profession.

Here is truly a great narrative, not merely a dry enumeration of dates, names, and discoveries. Any one concerned professionally or personally with the problems of tuberculosis today will be intrigued and at the same time instructed by the vivid description of one of the greatest and longest fights ever carried on, a fight in which physicians and surgeons from all parts of the world have joined hands and exchanged knowledge in order to vanquish an enemy common to all mankind.

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The Heart in Pregnancy and the Childbearing Age

By Burton E. Hamilton, M.D., Cardiologist, Boston Lying-In Hospital, and E. Jefferson Thomson, M.D., Research Associate in Medicine, Albany Medical College: With a section entitled "Delivery and Obstetric After-Care of Cardiacs," by Frederic C. Irving, M.D., Professor of Obstetrics, Harvard Medical School. Little, Brown and Company, Boston. 1941. Price, $5.

Three men with experience in their respective fields of activity have colaborated to produce an excellent book. In the first portion of the book, they record their knowledge and beliefs on the practical aspects of the care of cardiacs throughout pregnancy, delivery and the puerperium. The next portion details their experience with and information about the physiology of the effect of pregnancy on the circulation in normal women and in cardiacs. In the third portion, the heart diseases in women of the childbearing age and the effect of pregnancy on the course of the disease are discussed. Incidentally, this book is a fine example of art in printing.

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Arthritis and Allied Conditions

By Bernard I. Comroe, M.D., Instructor in Medicine, University of Pennsylvania. 2nd E. Lea & Febiger, Philadelphia. 1941. Price, $9.

This revision embraces the addition of 126 pages of text and 42 illustrations, with a complete revision of the whole text. Every phase of the treatment of arthritis is covered. Worthy of special mention are the chapters on rheumatic fever, backache, painful shoulders and feet; diet; and the description of physical measures used in the treatment of arthritis. The book is encyclopedic. It is a complete collection of information on this disease.

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Oral Pathology

A Histological, Roentgenological and Clinical Study of the Diseases of the Teeth, Jaws and Mouth. By Kurt H. Thoma, D.M.D., Professor of Oral Surgery and Charles A. Brackett Professor of Oral Pathology, Harvard University. The C. V. Mosby Company, St. Louis. 1941. Price, $15.

A wonderful book for dentists and dental students. It covers the field fully and well. Worthy of special commendation are the nearly fourteen hundred beautiful illustrations which complement the text splendidly.

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Textbook of Pediatrics

By J. P. Crozer Griffith, M.D., Emeritus Professor of Pediatrics, University of Pennsylvania, and A. Graeme Mitchell, M.D., B. K. Rachford Professor of Pediatrics, University of Cincinnati. 3rd Ed. W. B. Saunders Company, Philadelphia. 1941. Price, $10.

A complete revision of the former book titled "Diseases of Infants and Children." The bibliography, a part of previous editions, has been omitted. It is published in monograph form and may be secured from the Society for Research in Child Development, National Research Council, 2101 Constitution Avenue, Washington, D. C. New chapters, charts, tables, illustrations have been added to bring the book wholly up to date and to complement the text.

Foundations of Neuropsychiatry

By Stanley Cobb, M.D. Bullard Professor of Neuropathology, Harvard Medical School. 2nd E. A William Wood Book: The Williams & Wilkins Company, Baltimore. 1941. Price, $2.50.

This is the second edition of the same author's "Preface to Nervous Disease" published in 1936.

The book has been enlarged and revised to bring it in line with recent advances. Some of the new knowledge about the hypothalamus, a summary of what is known of the thalamus, and a lot of new material on the frontal lobes has been included. The chapters on cerebral circulation and on epilepsy are entirely rewritten. A chapter on psychopathology has been added because so many text books lack a brief objective description of the main syndromes found in psychiatry.

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A Manual of Allergy

By Milton B. Cohen, M.D., Director of the Asthma, Hay Fever and Allergy Foundation, Cleveland, Ohio. Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, New York. 1941. Price, $2.

A practical, simple, easy-to-follow guide to the intricacies of allergy. All types of allergic manifestations are covered. Physical and laboratory examinations, eye tests and x-ray examinations, the technique and interpretation of skin tests are discussed. Differential diagnosis is stressed—with practical tables for quick reference.

A wide variety of drugs are evaluated and methods for the therapeutic injection of allergens are given. Care of the patient is taken up in terms of what can actually be accomplished and definite methods are suggested for eliminating allergens from the patient's environment.

Special chapters are devoted to such common problems as asthma, eczema, urticaria, migraine, and serum reactions.

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Manual of Human Cross Section Anatomy

By Dudley J. Morton, M.D., Associate Professor of Anatomy; Raymond C. Truex, Ph.D., Instructor of Anatomy, and Carl E. Kellner, Artist, Columbia University College of Physicians and Surgeons. The Williams & Wilkins Company, Baltimore. 1941. Price, $6.

The authors have devised an ingenious and practical method for the study of cross-section anatomy, adapted to the facilities of all medical schools, small and large alike. This atlas enables others to adopt the plan or modify it according to their needs. It presents seventy-nine outline drawings of cross sections of the complete male body and eleven outline drawings of the lower abdominal and pelvic region of the female. On the page opposite each drawing is a list of all the structures to be identified and located in that section. The drawings themselves include the outline of all structures with the exception of blood vessels, nerves and certain fasciae. For easy orientation key figures have been added, seven of which are printed in colors.

The atlas eliminates the usual, arduous and time-consuming tracing of isolated sections. It allows one to quickly cover the important relationships of any region and, as the sequence of sections is followed, to visualize continued or changing relationships.

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Essentials of Dermatology

By Norman Tobias, M.D., Instructor in Dermatology, St. Louis University School of Medicine. J. B. Lippincott Company, Philadelphia. 1941. Price, $4.75.

Despite small size, this is a comprehensive book, termed a "handy volume" by the author. It certainly gives good coverage of the field. The illustrations are fine, but as the author says, "the best photographs and the best textbooks do not take the place of clinical observation." Each disease is discussed from the standpoint of internal medicine to dispel the prevalent notion that dermatology is a collection of strange, bizarre names and complex prescriptions. Students will like this book.

The small size of the page and the large amount of type matter on it, spoils the appearance of the book. It is not artistic typography.

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Principles and Practice of Ophthalmic Surgery

By Edmund B. Spaeth, M.D., Professor of Ophthalmology, Graduate School of Medicine, University of Pennsylvania. 2nd Ed. Lea & Febiger, Philadelphia. 1941. Price, $10.

This edition has been enlarged considerably and thoroughly revised. It contains many new illustrations, and numerous additions to the text bring it fully up to date. In its present form it covers completely the surgery of the eye and considers ophthalmology as a branch of internal medicine having a definite surgical aspect. It includes every surgical operation which is a part of the author's own practice, as well as many other approved surgical procedures which, in the opinion of ophthalmologists, assure good end-results. This work will be found a conservative and effective guide in all conditions in which ophthalmic surgery is required.

Synopsis of Diseases of the Heart and Arteries

By George R. Herrmann, M.D., Professor of Medicine, University of Texas. 2nd Ed. The C. V. Mosby Company, St. Louis. 1941. Price, $5.

A good book for the student to have handy for use in his clinical clerkships. It is brief, concise with emphasis placed on diagnosis and treatment. The author's wide experience and careful observation stamps this work with the seal of authority.

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Essentials of Endocrinology

By Arthur Grollman, M.D., Associate Professor of Pharmacology and Experimental Therapeutics in the School of Medicine, Johns Hopkins University. The J. B. Lippincott Company, Philadelphia, 1941. Price, $6.

Here is brought together the vast subject matter dealing with the hormones, with a critical evaluation of all important aspects of the subject, based on clinical and experimental observation.

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Dietetics for the Clinician

By Milton A. Bridges, M.D., Late Assistant Professor of Clinical Medicine and Lecturer in Therapeutics and Nutrition. 4th Ed. Lea & Febiger, Philadelphia. 1941. Price, $10.

A valuable source of practical information and instruction in the application of dietary principles in the healing of the sick. The numerous contributors to the book have combined to furnish valuable diet lists for every type of clinical case. Tables, lists, charts, analyses of foods of every sort unite to give full coverage for every need to prescribe a proper and adequate diet.

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Physical Medicine

The Employment of Physical Agents for Diagnosis and Therapy. By Frank H. Krusen, M.D., Associate of Physical Medicine, Mayo Foundation, University of Minnesota. W. B. Saunders Company, Philadelphia. 1941.

Presenting in one volume the modern concepts of physical medicine by an authority on the subject. It has been prepared specially for the medical student as well as for the practitioner. The more complicated fundamental physical aspects of the subject have been minimized intentionally. No one book covers the whole field as well as does this work. No definite and orderly system has been followed. Every physical agent is considered under consecutive headings. Emphasis is placed on the more simple measures which are readily available. The index is a marvel of completeness.

Textbook of Ophthalmology

By Sanford R. Gifford, M.D., Professor of Ophthalmology, Northwestern University Medical School. 2nd Ed. W. B. Saunders Company, Philadelphia. 1941. Price, $4.

This book brings a clear, detailed knowledge of modern ophthalmology.

After an extensive 43-page consideration of Examination, the author enters into discussions of the various diseases and conditions of the eye. Emphasis is placed on diseases of common occurrence.

In this completely revised edition, are included all new advances in the subject. Many of the previous illustrations have been replaced by new ones. There are now 215 black and white illustrations, plus 14 plates with 40 illustrations in full colors.

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Natural Resistance and Clinical Medicine

By David Perla, M.D., Instructor in Medicine, Columbia University College of Physicians and Surgeons, and Jessie Marmorstan, M.D., Assistant in Pathology, Cornell University Medical College. Little, Brown and Company, Boston. 1941. Price, $10.

A survey of the biology of natural resistance in health and disease and susceptibility in relation to their importance in general physiology. Bibliographies are placed at the end of each chapter.

DIETETICS FOR THE CLINICIAN

By MILTON ARLANDEN BRIDGES, M.D., F.A.C.P. Late Assistant Professor of Clinical Medicine and Lecturer in Therapeutics and Nutrition, New York Post-Graduate Medical School, etc.

NEW (4th) EDITION

Octavo, 960 pages *Buckram, $10.00, net*

This work in applied nutrition has met with a wide acceptance throughout the country and has passed through repeated editions in a comparatively short time. No effort has been spared to make it a valuable source of practical information and instruction in the application of dietary principles to the healing of the sick.

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